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TO TRAP CURCULIO.

PROF. COOK GIVES US A LITTLE TALK ON PLUM CULTURE.

PROF. A. J. COOK:—While reading your excellent article on "The Wintering Problem in Apiculture," in this month's GLEANINGS, I thought that, as many bee-keepers are interested in fruit culture, in asking you to favor the readers of GLEANINGS with an article on plum culture, having particular reference to Judge Romsdel's method of dealing with the curculio, I would express the wish of many others. Should you find it convenient to contribute such an article, there will be one at least who will be greatly obliged to you, and I think many others. If you do not care to do this, and it is not asking too much, I should like to have you tell me by letter how to manage the "little Turk," and I will consider it a great favor. Respectfully yours, RUFUS PORTER.

Lewistown, Ills., April 15, 1885.

Replying to the above, Prof. Cook says:

Quack methods are often given in our papers. A few years since, I read in a paper that winding a cloth about the trees, and saturating it with crude carbolic acid, would surely keep the "little Turks" at bay. I tried it; but fortunately on only one tree. As I visited the tree during the sultry June days, the whole atmosphere was odorous with the acid, yet I could see the little weevils thick on the plums of this tree, plying their mischief, and, as I fancied, fairly grinning their "you couldn't come it" at me. But I did succeed in one thing. I killed a valuable plum-tree outright. I already knew of a valuable and thoroughly effective method, yet was not content to let well enough alone.

THE JARRING METHOD.

This is the method used by Judge Romsdell, and has saved the plums in my own little orchard year after year, so that we and our neighbors had abundance. A sheet of common factory cloth is nailed to a light convenient frame, and large enough so that, when spread under the tree, it will catch every thing that may fall from the tree. I have only four trees. My sheet is twelve feet square. Along one edge this sheet is tacked to a strip of light pine, twelve feet long. The opposite edge is tacked to two similar strips, each six feet long, the break being in the middle. From this break the sheet is slitted to the center. This slit makes it easy to place the sheet directly under the tree, the center of the sheet inclosing the trunk of the tree.

In case of large orchards it is found better to have this sheet carried on wheels, or attached to a sling, so as to be easily borne on the shoulders. In place of the wheels or a sling I have two little children, which, by the way, no family should be without, by aid of whom the sheet is quickly and easily manipulated. Besides the sheet, we must have a strong heavy long-handled mallet. This may be thickly padded with carpeting—this is the way mine is fixed—or a limb may be sawed off, or a spike may be driven into the trunk and main branches to receive the blow, in which cases the padding of the mallet should be omitted. What we desire to do is to give the trunk a sharp blow so that each limb may be jarred with force, and yet not injure the tree. Small trees may be jarred by simply striking the trunks. With large trees each branch must be jarred.

The time to commence the warfare is just as we see the little calix crowns falling from the plums,

or when we see the little crescent cuts thus, (· , on the plums. These little curved cuts are made by the little weevils as they lay the eggs in the plums. This fact gives rise to the name "little Turk." For years now I have seen these crescent marks just as the blossoms—calices—were falling from the plums. The jarring should be done very early in the morning, or as late in the evening as we can see well. To avoid the dew, not to speak of early rising, the evening battle is generally preferred at our house. In the middle of the day, especially before the days get warm, the curculio are hid beneath the trees, hence the necessity of jarring as early or late as daylight will permit.

We spread the sheet under the tree and then strike the trunk, or, in case the tree is large, each main branch. A sharp blow is required, as only a sudden jar will surely fell all the weevils to the sheet. The spike or padded mallet permits this without injury to the tree.

As soon as the jarring has been thoroughly done, we examine for the insects on the sheet. These little beetles look so like the little bugs that will be dislodged by the same blow, that only sharp looking, especially at first, will detect them. Each year I perform this before my thirty or forty students, and often they will declare the first night that there is not an insect, when perhaps there are a score on the sheet. At first, pick up every thing that looks like a little bug, and learn by close scrutiny whether it be bug or insect. If the latter, it will soon move when taken in the warm hand; we soon get so we see the weevils very quickly. Bertie and Katie are a great aid to me in catching the weevils, as well as in moving the sheet. It is great fun for them, as they eclipse their father in the number caught. To kill the insects we crush them between the thumb and finger. This is quick, sure, and not disagreeable, as the insects are so small. Often we may omit the jarring for two or three nights. If we get no curculio, or only two or three at a tree, we can safely wait a day or two before we try again. It is often safe to omit jarring for two or three days. I have found that I have to work more or less all through June. This is for central Michigan; and taking the years together, I have not had to jar more than fifteen times in a season. This seems little labor when we consider the results—plenty of luscious plums to sell and to keep, or, best of all, to give away to our good neighbors.

It is a good idea, though I have never done it, to gather all the plums that fall, and burn them. This prevents the development of the insect—now a grub, feeding on the pulp of the plum—and so makes the insect more scarce the next season.

The reason Judge Romsdell, Michigan's great plum-grower, thinks the circulio an advantage, is that it can be kept under, and the plum crop saved. Most people, through ignorance or neglect, will not do this, and so plums will always be scarce, and always bring a high price in the market. Again, when the trees set very full, the plums should be thinned; by allowing the curculio to sting a portion of the fruit, the thinning costs nothing.

A. J. COOK.

Agricultural College, Lansing, Michigan.

Last fall, just about plum time, I visited one of our bee-men, friend J. Mattoon, of Atwater, Portage Co., and among other things I took a look at his plum-yard. This yard was not very large, but it was filled with the most luxuriant, thrifty-looking plum-trees I ever saw before in my life; and if I remember correctly, he said he had just sold fifty bushels of plums out of that "chicken-yard," and that he received for them an even $200. The trees were got into bearing shape by underdraining, subsoiling, use of fertilizers, and all modern improvements. Then chickens enough were kept in the yard to keep the ground as hard and bare of vegetation as it usually is for a few rods around the front of a country schoolhouse. The trees were jarred in the way Prof. Cook mentions, but the chickens gobbled the curculios, rendering the use of a sheet unnecessary. Friend Mattoon succeeds with bees, plums, pears, strawberries, and every thing of the kind. Do you know why?

After the above article was in type, we received the following letter from Prof. Cook, touching on another subject:

POLLEN AND WINTERING, AGAIN.

We have just had a bad mishap with our bees; but it gives forth clear evidence on the pollen question. Our bees were in fine condition March 1st. Our cellar has six inches of water in it, and keeps a uniform temperature from 38° F. to 45° F. By an accident, mice got into the cellar, and so worried the bees in three hives that they ate all their stores, what the mice did not eat, and starved. Of the remaining colonies, six had much pollen. Four of these have diarrhœa very badly, the other two considerably, but not seriously. The colonies having no pollen have no diarrhea, and are in fair condition, though their combs and hives are badly knawed by the mice.

I think I can say truly, then, that bees are safer in an atmosphere that is too cold or too warm, without pollen, and also decidedly safer in case of an invasion of mice. March 1st there was no sign of diarrhœa. Whatever disturbs bees will endanger them in case pollen is present, and confinement necessary. Keep the bees quiet, and the pollen is harmless—so I think, as the result of several winters' close observation and experiment.

April 25, 1885. A. J. COOK.

APIS DORSATA.

FRIEND BUNKER TELLS US ABOUT HOW THESE BEES BEHAVE IN THEIR HOME IN BURMAH.

DEAR BROTHER ROOT:—I have just returned from the hills, and while traveling I have been studying *Apis dorsata*, and now make a report of progress. There seems to be two kinds of this bee in Burmah, each quite distinct, though I have not yet secured specimens for comparison. One kind is yellowish in color, and usually builds nests on the limbs of very high trees, or in rocky cliffs, while the other is nearly black, hairy, and builds in thickets, on limbs of trees, or on creepers, often near the ground. Both are unicomb bees. The former is often vicious, the latter kind is very gentle, according to all reports, and the natives have no fear of it at all. They often approach the nest of the latter by daylight, and take off pieces of comb, without smoking or protection of any kind whatever, and without often being attacked by the bees. The former kind defends its nest with great vigor; and if they once set

upon an enemy, they follow very persistently for a long distance, and sometimes natives thus pursued must take to a neighboring stream to escape.

One ruse for escape is to break off a thickly leaved bush and plunge into the water, and allow the branch to float down with the current, while the fugitive plunges down into the water. The bees then follow the branch down stream, and lose sight of their victim. Yet, the first kind with the yellow markings is not always so vicious, as they can be easily subdued with smoke; and if handled carefully they seem to be as gentle as many kinds of *Apis mellifica*, so I judge. Both kinds leave Burmah at the beginning of the rains, and return the first of February of each year. They usually return to their former place of abode. This is especially true of the yellow kind, which occupies a chosen tree or trees in a particular locality year after year, so that the natives buy and sell these trees as valuable property.

I judge that these bees migrate to some distance to the north, for these reasons: 1. The reason why they migrate at all, seems to be the exposed position of their nests, on the under side of the limbs of high trees, exposed to all weather. The high winds and violent showers of the beginning of the monsoons would always destroy their nests. I never saw a nest survive the rains; hence, migrating on account of the rains, they must needs go to a climate where the rains are less violent, or where they can find sheltering cliffs in which to build. 2. When they return they are often found resting near the ground, before selecting the tree on which to build a new home. Sometimes they will rest there a week, and then take flight again. At such times they are very cross, and the natives are very careful not to go near them. There are no cliffs or rocks in Burmah in which these bees can build. If there were they might remain here the year round, as I understand they do in Ceylon and in Northern India.

In the Padung-Karen country, about 80 miles N. E. from Toungoo, these bees are in some sense domesticated, also the *Apis Indica*. In order to secure the service of the *A. dorsata*, the Padungs dig a trench in a side hill, and drive a stout stake, inclined about 45 degrees toward the down slope of the hill, into the ground, and lean branches of trees against the stake on either side, making a shield from the wind. The *A. dorsata* returns to these places year after year, and the natives secure bountiful harvests of wax and honey, always leaving some for their yellow workers. May it not be that the *A. dorsata* builds one comb, only because it does not usually find a place to build double combs? The comb is so large that it must indeed be a large limb of a tree to give room for double combs. From all inquiries which I have made, I am strongly inclined to believe that the *A. dorsata* can be domesticated, especially the black-colored species. Yet, to insure success, doubtless much study must be given to the habits of this bee, and all the conditions of domestication be approached as near as possible to their wild state. The fact, as I am informed, that, in regions of less rain, in cliffs and rocks these bees are found year after year, goes to show that migration is not necessary to this bee as to "birds of passage," etc.; that if the conditions are favorable they may be kept the year round. The fact that these bees can be mistaken for hornets by the natives, as in Mr. Benton's experience in Ceylon, shows how little we can depend on their judgment in such matters.

I now have two swarms of the *A. dorsata* promised me, and men out after them. Of course, I am now speaking of this bee only from report, and very little from experience. I hope in due time to speak from experience, and have something of value to report on this most interesting insect.

Toungoo, Burmah, Feb. 28, 1885. A. BUNKER.

[*For later report, see page 314.*]

MRS. JENNIE CULP'S REPORT FOR 1884.

AND A FAIR REPORT, EVEN THROUGH THE BAD SEASON OF LAST YEAR.

I AM again so late in sending my report, I fear, Bro. Root, you will say of me as the good sisters at camp-meeting say, "Sister Culp always brings up the rear;" and I will add, especially if it is her day to do the cooking. I received a postal from one of your clerks some time ago, saying, "We want your report, if it is a failure." Now, what possessed her to think I had failed? Was it because she saw me up at Medina visiting when I ought to have been home looking after my bees? or was it because she knew we had extremely hot dry weather in our part of the State? Be that as it may, I am not ready to go into the failure list yet. No, no; for surely Providence smiled upon me again, but not in such a bountiful manner as the preceding year.

Fall of 1883 I put into chaff hives 47 colonies; *all* came out in good condition; and as my object was honey, and not increase, I prevented swarming. The indications were that the honey season would be of short duration. I extracted but once, taking 1740 lbs. of beautiful white-clover honey, and 350 lbs. of section honey; in addition to this I set away 100 frames of nice white-clover honey averaging 10 lbs. per frame, for winter feeding; also had 100 new wired frames filled with fdn. drawn out ready for this summer's work. In the fall, removed the "bug-juice," gave them the white-clover honey, and, as a consequence, to-day, Apr. 16, 1885, 46 out of the 47 were out on duty strong. A great many in this locality have lost three-fourths of their bees; some *all*. We are not so badly off as the good brother at Bowling Green represents his county to be; we still have enough left for "seed."

MRS. JENNIE CULP.

Hilliard, O., Apr. 16, 1885.

Thanks for your report, my good friend Mrs. Culp. I presume the reason why that postal read as it did, was probably because I happened to think of you, and so told one of the girls to ask you for a report, adding that we wanted you to send it, *even if it was a failure*. They probably got hold of the last end of my remark, and omitted the first part. I have thought a good many times that probably some of the friends would think we are a queer sort of people here; but with the hurry and rush of many duties, it was the best I could do, and so it went. I am very glad indeed to know you have wintered so well; and your report strengthens still more my opinion, that those who take pains will prosper.

The hand of the diligent shall bear rule; but the slothful shall be under tribute.—PROV. 12:24.

HOW FAST DOES A SWARM OF BEES TRAVEL?

FRIEND BRAYMAN SUGGESTS THAT THEY SOMETIMES GO FAST, AND SOMETIMES THEY GO SLOW.

NOW, Bro. Root (I call you brother, because I believe that all good Christians are brethren, for our Master said, while here, that "He that doeth the will of my Father which is in heaven, the same is my mother, my brother, and my sister"), I want to say a little about how fast bees fly when going off, for I had a little experience with some last season. I had a very large swarm come out on a Thursday, and I hived them and placed them where I wanted them to stand, and they went to work all right, as I supposed, for they commenced to draw out the comb (from fdn.) and filled each frame nearly full of nice white comb, and stored some honey. On the next Monday forenoon, about 11 o'clock, another swarm came out, and I hived them all right; but having occasion to go and help a neighbor raise a barn-frame in the afternoon, I left No. 2 swarm where I hived them, till night, before moving them to where I wanted them to remain. While I was gone that afternoon, swarm No. 1, which I hived Thursday, came out of their hive, and clustered upon an apple-tree, and my wife took another hive and hived them in that. When I came home at night I placed them both, Nos. 1 and 2, upon stands where I wanted them to remain. On Tuesday I went out and looked at them, and No. 1 was restless and uneasy. I told my wife that they would not stay, or, at least, I thought they would not: so I went out about every 15 minutes to see how and what they were doing.

About 12 o'clock I went out, and they appeared about the same as usual. I went in and had not sat down more than five minutes when my little boy came and said, "Papa, your bees are swarming."

I went out, and I saw that they were not going to cluster, for they rose higher than usual, and were making quicker motions than a swarm that clusters. Soon I saw that they were making across my orchard. I started after them. Well, how far do you suppose I went before I lost all sight and hearing of them? About 15 rods. I gave up the chase, and turned around and came back, and lo! No. 2 had caught the spirit, and they were tumbling topsy-turvy over one another, as if they could not get out fast enough. I lay by the hive waiting for the queen, and the good wife watching where they were going to cluster; but, nary a cluster; they, too, started for the woods, but in an opposite direction (east) from the others. I followed them; some of the time I walked, and some of the time a little faster, till I came to the tree into which they went. Now, I believe it makes some, if not all of the difference how far they are going, how fast they fly.

Waldo, Wis., Apr. 15, 1885. A. H. BRAYMAN.

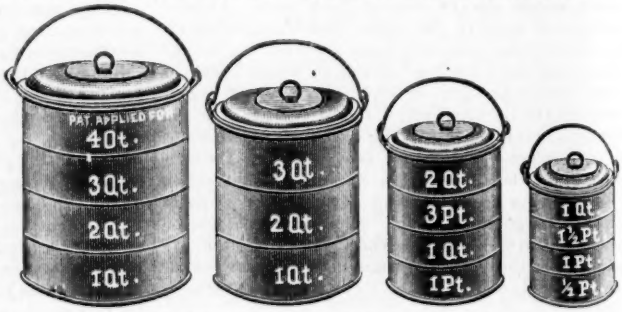
You make a good point, friend B.; and, by the way, is it not true that it is difficult to lay down rules for a great many of these things? Sometimes bees behave one way, and then again they don't. I have seen a swarm of bees moving overhead when it seemed to me they went faster than a horse could canter; at other times one could almost keep up by walking briskly.

SOMETHING NEW IN TIN PAILS.

GRADUATED TO MEASURE EXACTLY HALF-PINT, PINTS, QUARTS, AND GALLONS.

I THOUGHT some time ago I never wanted to see any thing new any more in the way of pails for honey; but here we are again with something newer and better—at least, that is what everybody says, and everybody wouldn't be very likely to be mistaken.

The smallest pail holds one quart when it is full, and the largest one holds a gallon when it is full, and all of them are divided by a bead in the tin, so as to show you just how much it is when it is so full. Still further, this beading is lettered, so that folks who are not very smart can tell just how much there is in the pail, by reading the letters and figures that stand under the beading. Now, I do not believe I could have been induced to have started a new tin pail, if it were going to cost any more money than the old ones; but here they are, with this new graduated device, and not a cent more in the way of expense. The quart pail is 5 cts. only; the two-quart, 10 cts.; the three-quart, 15 cts., and the gallon pail only 20 cts.; and the prices by tens and hundreds are the same as those on page 21 of our price list. The pails, as you will observe, are, however, a little taller than our celebrated nested pails; and, in fact, a graduated pail can not be made to work real nicely unless it is rather tall. Now, then, the matter is right here before you, and you can do as you choose about investing in the new-fangled pails. Oh yes! when you order, just say "Novelty pails," and then you will get the right kind.



THE NEW GRADUATED TIN PAILS.

Any kind of a can or pail can be made cheaper by making the length up and down greater than the diameter; for tin can be cut to make the body, practically without waste; but in cutting the circles for tops and bottoms, a good deal of tin is wasted; and the larger these tops and bottoms, the greater the waste. Tin pails, however, do not ordinarily meet with as much favor as those about the dimensions of an ordinary tin cup; viz., with the diameter a little greater than the height.

TALK ABOUT GLEANINGS, BEES, AND DRONE-EXCLUDERS.

SOME KIND WORDS INTERSPERSED WITH VALUABLE FACTS.

GOOD MORNING, Mr. Root. This is a pleasant April morning. Please take a seat, if you can spare a few leisure moments, as I wish to talk with you. Spring time is here; the sun shines, the birds sing, and all nature begins to rejoice in praise to its Author. A more fitting time could not well be found to talk with a friend.

Well, I need not tell you I take GLEANINGS; your list of subscribers tells that. I hope you will excuse me for expressing my opinion of it to you, for it has not been formed in haste, or for the want of apicultural literature, to say nothing of nearly fifty years' experience in bee-keeping. With all this I find GLEANINGS all the more valuable.

Of course, some of the inventions and articles on bee culture are enough to make a good-natured man smile. Notwithstanding, those articles, talks, and discussions in GLEANINGS bring out some grand ideas, and much valuable information which the bee-keeper can not well afford to do without. Then your talks in Our Homes; you have such a clever and happy way of telling it; it must certainly meet the approbation of every good man and woman, boy and girl.

I wish every person in America, old, middle aged, and young, white, black, or brown, would turn to GLEANINGS, March 15, 1885, page 211, and read it; and those for whose special benefit it was intended should read it morning, noon, and night. Then get up in the winter at midnight and read it, till their knees would tremble like a Belshazzar; yea, even more, that the thunders and forked-tongued lightnings would flash it, and every stone, straw, stick, leaf, and tree would echo it in their ears until they are reclaimed. For, to see so many people going through the world lying, stealing, and in a heedless, lazy, slip-shod, careless way, borrowing and sponging their living off their neighbors, well deserve to be treated with an ironical reception. Can they read those lines without a blush? If so, oh shame! If the ministers in the churches had the courage to preach such sermons, and try to impress it, it certainly would do much good; it is certainly one of the best sermons I ever read. I hope the reader will look it up, and see if he doesn't agree with me.

BEES.

Well, I was going to say something about the bees. Last summer there were the most bees I ever knew. Nearly all the neighbors had from one to 10 or 15, some 100 colonies. The bee-fever was running high; in fact, it was contagious; but at this writing it assumes more the nature of an intermittent; the pulse has fallen from 140 to considerably below blood-heat. Respiration is long and heavy.

Some have lost this winter one-half; some two-thirds, and some all. Alas! how soon fond expectations perish! In all my experience with bees I never knew so great a loss. It was not the cold that killed them; they died of diarrhœa. Last season the bees gathered tons of poor honey, much of it black as ink. I never saw any thing like it in honey. It had a nauseous smell, and very disagreeable taste. Some of it was so bad it had to be buried in the ground. This poor honey is what killed the bees; it gave them the diarrhœa, and they died before the winter was half over. Many got this poor honey in the surplus boxes and brood-chamber. I put on 1000 surplus boxes, and every drop of honey in them was excellent. But in the brood-chamber there were large quantities of poor honey. I can not account for it, except that I put on the surplus boxes over two weeks later than my neighbors, and caught nothing but locust and white clover, then took them off. The poor honey in brood-chamber resulted in the loss of several colonies. I have quite a quantity of this poor honey. I don't like to let the bees have it, for fear they will retain some of it for next winter. What would you advise me in such a case?

Now, here comes another query: My bees were all on summer stands, and apparently went into winter quarters with equal chances. After this long cold winter, some of them on the first warm day in April came boiling out as if to say, "We stood the winter all right," and one colony in particular was bright, clean, and dry; not to exceed a tablespoonful of dead bees was in the hive, and the third day they were carrying in pollen.

DRONE-TRAPS.

Now something about drone-excluding devices and traps. The best device I know of is Alley's drone-trap, with my improvement attached. It is so satisfactory I see no need of any thing better. On page 231 of GLEANINGS, April 1, 1885, you gave us a device from D. C. Noble, for excluding drones, which is another instance of the difference between theory and practice. It reminds me of a man who once applied for a patent to raise sheep without any wool. He says the invention is his, and calls it a drone-excluder, to be placed at the entrance of the hive, hinge side out. The doors are one-twentieth of an inch longer than the space, causing them to stand out at the bottom; and as the drones come pushing along they will raise the doors and pass out, but can not enter again.

If you remember, Mr. Root, you thought the hinges rusting might be an obstacle to the movements of the doors, and said you would be very glad to hear from some one who had used these machines. Now, I have no reason to doubt but that Mr. Noble is a nice man, and would not offer to the brother bee-keepers an article if he did not think it possessed real merit, and feels confident his device is what he claims for it; but I am inclined to think he has never given it a thorough trial. Many years ago I did not like the plan of letting the drones eat so much honey; and as soon as they could be dispensed with I frequently sat down by a colony of bees, and, with the sharp-pointed blade of my pocket-knife, I speared them as they pushed their way out on the alighting-board. After some practice I become an expert, and could take them as fast as I could count, but this took time and patience. So in 1855, nearly 30 years ago, I invented a device exactly like Mr. Noble's but made of different material. I used very heavy hard-finished paper, with fine wire hinges for the doors. One afternoon, about 3 o'clock, I placed this device on the entrance of a strong colony, well supplied with large fat drones. I sat down, folded my hands, and awaited results. Soon the bees came tumbling through the open spaces, heels overhead, then up and off about their business. After some delay I perceived a vibrating movement at the small doors; they finally opened, out rushed the drones like rats from an old barn on fire. I clapped my hands, and exclaimed, "Eureka!" But, alas! my fond expec-

tations soon vanished. Further observations convinced me that my northern laurels had degenerated into weeping-willows. When the outgoing drones opened the doors, the returning ones walked in, although the doors were so small as to but little more than admit the largest-sized drones one at a time. Bees, like some little boys, soon learn tricks, and a good many bad ones too; they are as quick to learn tricks as any of our domestic animals. Well, I will tell you how they worked their cards in this case; they were very accommodating to each other; the outgoing ones turned to the right or left, as the law directs, generally to the right. The incoming ones meet them, thus keeping the doors open. Well, they have some kind of a law, like when two railroad trains meet on the same track; the one having right of way pushes the other back, and some one keeps his head in the door, thus keeping it open. Sometimes the bees open the doors, and drones pass in by them. So I never applied for a patent. Such has been my experience, and such would, I think, be friend Noble's.

JOHN W. NIMAN.

Spring Mill, ♁ Richland Co., Ohio.

Friend N., you are very kind, and I am sure I thank you; but it seems to me you are a little bit rough on neighbor Noble. Although I confess that I read his article all through, eager to hear him say he had tested it on his bee-hives, and that it worked beautifully, I rather expected something like what you have mentioned. But, did not your hive have an unusual plenty of drones in it? It seems to me there must have been, or those little doors would not have been kept open for all outsiders to get in. If there are only drones enough so that each one would go out by himself, and come back by himself, it seems to me the doors must work. The outsiders will, of course, stand around waiting, and probably one going out would open a door for half a dozen to get in. But toward the close of the day, didn't the machine fence out at least a part of them? I think may be the metal doors would be less liable to the difficulty you mention, than paper ones.

A NEW PLAN OF FORMING NUCLEI,

GETTING BEES TO STAY, AND GIVING THEM COMBS FILLED WITH EGGS.

AS the time of year has arrived when most of the bee keepers are thinking about preparing to furnish for themselves extra queens, to use in cases which occur in all well-regulated apiaries, where a spare queen is of great value through the loss of the old queen, or to supply a queen to the queenless half of a division in the swarming season, I will give the readers of GLEANINGS a new plan of forming nuclei, which I have used successfully for the past two years. On page 835 of GLEANINGS for 1884, I gave you a plan of wintering nuclei, in which I spoke of a box for shaking the bees into when wintering. The box for forming nuclei need not be so large as those spoken of there. Those I use are made by getting out two pieces, 6 inches long by 6 inches wide by ¾ thick. Also two pieces, 12 inches long by 6 wide, 2 by ¼ thick. The latter are nailed to the former, so as to form a box 10½×6, inside measure, without sides. For sides I use two pieces of wire cloth, cut 12 inches long by 6 wide. One of them is nailed permanently to the box, while the other is left so it is easily removable. In the top of the box are bored two holes—a large one for the funnel (such as is used in putting up bees by the pound), and a small one through which the queen is to be put when she is given to the bees. Having the box and funnel prepared, I proceed to a colony that can spare some bees, and take out a frame well covered with bees (being careful not to get the queen), and set it down by the side of the hive, giving it a little jar, sufficient to cause the bees to fill themselves with honey, but not enough to dislodge any from the comb. If I wish a very large nucleus I take several frames, but one frame well covered with bees makes a good nucleus. As soon as the bees are filled with honey they are shaken down through the funnel into the box, when the funnel is removed and the hole closed. The frame is also placed back in the hive, when the box is to be carried to the cellar, or a dark cool room, where it is to be left for two or three hours. At this time, go to the colony from which you can best spare a queen, and take her in a cage to where your bees are in the box, when you will find them all in commotion, owing to their queenless condition. Let the box down suddenly, so as to jar all the bees to the bottom, when you will let the queen run in through the small hole with the bees. Now put the bees back, and leave over night (I generally cage the bees about 1 P. M.), when in the morning you will find them clustered and quiet, like a swarm. I now get two combs, one with honey and one having a very little brood in it, placing them in a hive, the size of which is contracted to suit by means of a division-board. This hive is placed where I wish the nucleus to stay; when I get the box of bees, remove the movable wire cloth, and shake them down at the entrance, into which they will go, fanning their wings just like a natural swarm. In two or three days more I proceed to form another nucleus in the same way, but this time I use the same queen I did to form the first, taking her out of the nucleus when I wish to give her to the bees. Thus I keep on using the same queen till I am through wanting nuclei.

Last season I made 20 with one queen. As soon as the queen is taken away, the nucleus is used the same as any queenless nucleus is. By this plan I can form a nucleus at any time I desire, and always have every bee stay where put; for after being with a strange queen over night, the bees, if any attempt to return, are treated at their former home as strangers. The nucleus is also ready to go to work at once, bringing in pollen and honey, according to its strength, the same as does a natural swarm. Again, by giving a laying queen, she lays all the eggs the nucleus can care for in the two or three days she stays, while she is kept laying all the while. I have tried using virgin queens instead of those laying, but some of them the bees will kill, while those which are not killed are a long time getting fertilized. Swarms can be made this way, and queens successfully introduced; but the chief value of the thing is in enabling one to form a good nucleus just when and where he pleases. I have been four years in perfecting it, and after testing it all of last season, and the latter part of 1883, I now present it as the best plan extant for forming nuclei in time so all can use it for the season of 1885.

16—G. M. DOOLITTLE, 40—80.

Borodino, N. Y.

Friend D., your plan is certainly sensible in many respects. This queen that you move around is, I suppose, to be the one you have selected to breed from, and, of course, valuable. During a dearth of honey it seems to me there might be some danger to the queen in introducing her so many times; but if the precautions you give are carefully followed, perhaps there will not be. You have tested it thoroughly, and probably know. Now, instead of making a cage as you suggest, why not take the usual cages we use for shipping a pound or a pound and a half of bees? These are already at hand in most apiaries. I suppose half a pound of bees would be enough to start such a nucleus, especially if they have some brood that will hatch out pretty soon. Two things contribute to prevent the bees from going back home; one is, the treatment you give them would tend to make them behave like a natural swarm; another is, that as they have a laying queen that they have recently accepted they would likely stand by her. I can imagine just how these little fellows would start out to work, if the nucleus was formed, say, during fruit-bloom.

WIRE NAILS, FOUNDATION-FASTENERS, ETC.

DR. C. C. MILLER TELLS US SOME OF HIS EXPERIENCE.

I HAVE just made an order for 67 lbs. of wire nails of 7 different sizes. I have used a good many pounds of them in the last few years, and think I have learned something of their merits and demerits. They are very superior to ordinary nails in one respect. Where the latter will split the wood, on account of cross-grained or thin stuff, the wire nail, on account of its shape, goes through without splitting. This advantage is so great that I would not be without them; at present prices some kinds are cheaper than other nails; for although the price per lb. is greater, there are more nails in a pound, making the cost per nail less. They are excellent for clinching; you can't break them. The case with which they bend makes them objectionable for some uses. I nailed a strip with 1½-inch wire nails for a screen-door to slam against. The constant slamming made the nails gradually bend and pull out. Common nails, on account of their rigidity, would have remained unchanged.

In their favor, it is stated that "when a nail of the old kind gets drawn out a little, or 'loose,' as we call it, it comes out very easily; but these wire nails, being all of a size, hold their whole length." From this I inferred that a wire nail would hold tighter than a common nail. The fact as stated is correct; the inference, incorrect. In spite of the fact that a wire nail holds its whole length, it takes less force to pull it out, or, in other words, a common nail holds stronger. I had hundreds of wide frames, some of them made with wire nails, some with others. In some cases where the bees fastened the bottom-bars to the tops of brood-frames, on attempting to lift out the wide frames the wire nails pulled out; the others, never. The wire nails, being smoother, start easier. In case the warping of stuff starts a nail, the wire nail will hold, after it is started, stronger than a common nail; but for ordinary purposes, I should say a common nail holds stronger. An objection is the difficulty of obtaining them at hardware stores; but I can always get them just right from Medina. But after all is said, I think a bee-keeper who has never tried them will be surprised to find how desirable wire nails are, and, after trial, will never want to be without them.

FOUNDATION-FASTENERS.

Heddon says he would rather have the Parker than the Clark fastener, and Mr. Gray's inventive genius has been brought into requisition to improve on the Clark. I do not wonder much at this, if the instructions are followed which are given in Root's price list. I have never seen Gray's machine, but can not imagine what improvement it can be to have the sections thrown out, unless it be to throw them into place in wide frames or supers, and I do not understand that it does this. Until I got the Clark I was well pleased with the Parker, but—just here I stopped, and went over to the shop to interview the young lady who puts in the foundation.

"Emma, give me an idea of how the Clark compares with the Parker as to ease and rapidity."

"Well, I can put in 2000 starters in a day with the Clark, besides other work, and I don't know that I can put in 1000 with the Parker. At any rate, 1000 with the Parker would tire me more than 2000 with the Clark."

Then I had her try to use the Clark according to directions—"As the presser sinks the fdn. into the wood, draw one side of the section forward a little, and this drawing motion rubs the wax in the wood." It seemed to be harder, slower, and in no way better work. As she has put in a good many thousand very satisfactorily, I give herewith

HOW TO USE CLARK'S FDN. FASTENER.

Get two fire-bricks, to heat and use alternately. Common bricks will do, but do not last long, as the heat cracks them. Common flat-irons, such as women use for ironing, will do, but lose heat quicker. Lay the fdn. starters in piles in front of the hot brick before you, having the edges of fdn. next the brick, piled evenly. The edge of the fdn. should be warm enough to be pretty soft, taking care not to melt it. Give the presser a quick pressure with the feet, *letting it fly back immediately*. No "drawing forward one side of the section a little" is needed. If the starter is small, push it up straight with both thumbs before lifting the section; if large, simply turning it over may suffice; but I notice Emma deftly helps it to its place by lightly touching with the fingers of both hands in the act of turning over the section. I watched her for some minutes at her regular work when she did not know I was timing her, and she put in 7 starters per minute. I then asked her to put them in as fast as she could, and she put in 10 per minute; so it will be seen that, without hurrying, she could put in over 4000 in a day of ten hours. As to the quality of the work, they are in to stay, and a good many of those fastened by the Parker dropped out.

C. C. MILLER, 200—258.

Marengo, Ills., ♂ Apr. 17, 1885.

Thanks, friend M. A little practical experience is just what we want. Friend Clark, who invented the Clark foundation-fastener, gave the instructions we printed with it, and it has never been changed since he first gave us the machine. Very much depends on getting used to these helps, and you know how often one man decides one

way and another man another way, with precisely the same machine. We get along faster and better, we think, with the Gray machine; but may be our directions would be modified now if they were written over again.

SOMETHING GOOD FROM A RETAIL DEALER IN HONEY.

SHALL WE PUT OUR NAME AND ADDRESS ON THE HONEY WE PUT IN THE MARKET?

I RECEIVED GLEANINGS for April 1, and read with interest Mr. Hutchinson's article, and I would indorse it all with this exception: I think that, when a person has produced comb honey of No. 1 quality, he should put his name and place on each package, in a neat plain type, also the name of the honey—clover, basswood, or whatever it may be, and require his commission merchant to sell it with that brand upon it; and if he should discover that his commission merchant had scratched his name off, at once close his account with that firm, and secure another that would promise not to steal his good name. Further, never put your name or brand on any package, the contents of which is not first class in flavor, and pure as purity itself, and then ship it to the same market each year. A good name is of more value than appearance, as it will wear longer.

I have been a retailer of fruit, nuts, and comb honey for 15 years, and know that, in fruit, the good name of a shipper is valuable. The trade soon finds out shippers that are reliable. There are several shippers of berries and peaches in Delaware whose name will sell their goods in the Boston market quick, at full prices, when others have to wait to be inspected. Why? Because they have never tried to make their goods look better than they were, and the buyers have found it out. Their seconds are sent to market without their name, and sold on the merits of the article. I have seen wagonloads of crates of strawberries and blackberries sold, when the market was quick, without being opened, the buyers engaging simply by the name of their favorite shipper. Why can't it be so with honey?

There is a lady in Vermont who makes maple sugar, and has sent it to one firm in Boston for the past five years. Every box is engaged before it gets to Boston, and we have to pay from 3 to 5 cents a pound more than common maple sugar sells for, and are glad to get it.

Friend Root, you, on page 239, hit the nail on the head where you say, "When you want to buy honey, or any thing else, be sure that a good man's name is on the label." And here I want to say a word for R. Wilkin, of San Buenaventura, Cal.; for on page 173 he seems to be feeling badly. Tell him to cheer up, and continue to send California extracted honey like this last lot in quality, to the Boston market, and he will surely reap his reward, for there was never any other nearly as good here before. I bought one can of 60 lbs. to try, and am now on the tenth can. Every one whom I have induced to try it has liked it very much, and a consumer always remembers where he got a nice article, and comes again.

One more for Brother Hutchinson. On page 226 he closes his article thus: "But, says some one, we can not get so much honey per colony when it is stored in sections as we can in frames. Beg pardon, my friend; that is simply because you don't know how." Brotherly love requires the educated to instruct the ignorant. Please tell us how to do it. I am willing and anxious to learn; don't be afraid that you will overstock the market; lower the price five cents per pound, and four times the quantity can be sold. I have retailed 2500 lbs. of honey this season. CALVIN W. SMITH.

Wellesley Hills, Mass., Apr. 12, 1885.

Friend S., I did not understand friend H. to say that the producer's name should not be on every package. I thought he objected to a large-sized *placard*. I entirely agree with you, that the producer's name ought to be on every thing he sells, as far as practicable; and even were I going to buy eggs I should like to know where they came from. Stoddard, in his little book called "An Egg-Farm," says that a wagon should be run to the towns adjoining, delivering fresh eggs the day they are laid, or, at least, the day after; and I think he is right in saying that eggs so delivered would bring a cent or two more a dozen than those bought at the groceries. Only a few weeks ago, before our hens began to lay, one of the children was sent up street for some eggs. A part of them were bad. The one who took them to market doubtless knew they were bad; at any rate, he did not *know* they were good; and in either case I should like to know who did it. We are in the habit of paying a cent or two more for butter when we are sure that a certain individual made it. I do not know why this should not be the case with comb honey. With extracted honey it would certainly be of the greatest importance to know whom it came from. We have the same state of affairs in maple sugar and maple molasses. Sometimes a clerk will come up, saying, "There is a man here who wants to sell you some maple molasses."

"What is the name?"

"Why, it is Mr. ——."

"Tell him we do not care to buy any to-day."

Now, friends, had the clerk mentioned some other names that I know well, I would have gone down to see the molasses at once. Yes, we have those whose name would be such a guarantee that I should be safe in telling the clerk, "Tell him we will take all he has got." Now, my friend, are you one of that sort of people? Our new potato-book has some grand thoughts on this very subject.

WINTERING.

SOME SENSIBLE SUGGESTIONS IN REGARD TO OUR RECENT LOSSES.

WELL, we can now look over the wreck of the past winter and count our losses. We are so used to the remark, "My bees all dead; how are yours?" that we scarcely expect any thing else. The fact is, there are but few left in this locality, except with those who use a chaff hive, and in these the loss is from 25 to 50 per cent.

I had 55 colonies last fall in excellent condition; now have but 40, which is not so bad, being the lowest percentage of loss in this neighborhood, so far

as reported. Yet this is my first loss since I commenced bee-keeping ten years ago. My theory for wintering has been, plenty of bees, plenty of stores of good food, and a good chaff hive. These conditions were all present last fall; but it seems something was still lacking to meet the extreme cold of last winter. Most of those dead colonies perished of starvation, having consumed all the honey in the combs on which they were clustered, and with a thermometer scarcely above zero; for two weeks in March they were unable to change their location in the hives, although winter-passages were at hand. My past success in wintering made it a matter of indifference about reducing the space below the ten frames by a division-board, except an occasional weak colony. One such came through the past winter, on six frames, in good condition. Had I reduced all to the same space, what would have been the result? Will those who have been practicing the division-board system report your percentage of loss, with the particular condition, that we may get an idea of its real value?

Observation shows, that before an extremely hard winter the bees do but little swarming, instinct teaching them to hold their strength to meet the rigor of winter; also that a disastrous winter is followed by a summer of unusual activity in the bee-yard, a seeming effort being made to recover the winter losses. Such I predict the coming summer. Let those of us who are more fortunate share with the less fortunate—at swarming time—at reasonable prices, that all who wish may utilize those empty hives and well-filled frames.

J. NEWTON WHITE.

Grove City, Mercer Co., Pa., April 9, 1885.

THE HEDDON HIVE.

17⅜ AND 17⅝ FRAME.—LIABILITY OF COVERS TO BLOW OFF, ETC.

FRIEND ROOT:—You say in GLEANINGS, page 215, that great confusion is going to result because friend Heddon uses 17⅜ instead of 17⅝ frames. Why can't your customers specify which frame they want? It's just as easy to make the hive for 17⅝ as 17⅜. The honey-board can be made longer; and by using ¾-inch instead of ⅝-inch thick pieces on end of super, you can make the super as long as the hive.

Dr. Miller is dreadfully worried about that 15-lb. stone. Now, doctor, you are worrying yourself for nothing. The cover, if rightly made, needs nothing to hold it down. I have used them, and never had one blow off; and they have been through some pretty hard storms too. In my opinion, a wind that will take the cover off will move the hive too. I have seen large covers made the same way, and was told that they never blew off. That 15-lb. stone is to keep the shade-board in place, which being 2×3 feet, presents considerable surface to the wind. And, doctor, have you been out of practice so long that you have no remedy for backache? I use the Heddon system adapted to 17⅝ frames, and think that is the best out. I use 17⅝ because I commenced using it when I first commenced, and don't want to change. Those that are so loth to take hold of the Heddon system will be well satisfied with it, unless I am greatly mistaken.

The past winter has been an extra severe one for bees in this section. Out of 27 stands packed on their summer stands, 18 are dead, one more will die, if not more. Yet I don't consider myself in Blasted Hopes, but will try again. E. L. MASON.

Hillsboro, Wis., April 7, 1885.

In regard to the 17⅝ frames, friend M., the 17⅝ are always in stock, and all the appurtenances belonging thereto. In fact, we keep a great warehouse full of hives and frames and other fixings. Now, should we build another great warehouse and keep that full also, that we may be ready to fill orders for either kind? Again, nine-tenths of our customers order Simplicity frames and Simplicity hives, or Langstroth hives and Langstroth frames, without saying any thing about dimensions. What kind should we send them—write back and inquire, and possibly have them so vexed by this amount of delay that they will countermand their order? Then, again, suppose one wants to buy and sell hives and fixtures. Starting off on a shorter hive and shorter frame would be a national calamity. If you want to see how it works, try it, and it will not take many years for you to declare you won't have any thing about you hereafter that is not conformed to the regular standard goods in common use by the majority of bee-men. The Heddon eight-frame hive is going to make trouble in the same way, to some extent; but if they are made to hold a standard frame, the trouble will not be nearly as great. I have sometimes really thought that it would be a kindness to refuse to make or encourage the making of any thing different from the standard goods. The veterans can use what they like; but for beginners to get a notion in their heads that they want something a little different, is a great misfortune. If nothing but staple goods are to be had, at moderate prices, it would do much to end these troubles with things that won't fit or work together.—I presume that we shall have to give up, that the Heddon covers do not blow off, since so many declare it is a fact.

A WORD IN FAVOR OF QUEEN-CLIPPING.

A SUGGESTION IN REGARD TO THE MATTER, FROM OUR GOOD FRIEND MRS. JENNIE CULP.

IN your last issue, April 15, you say you believe the general opinion is that we do not want our queens' wings clipped; but "I am afraid to say so." Now, Bro. Root, I do hope, for the benefit of lady bee-keepers, you will continue to be afraid to say so. I have practiced it so successfully the three years I have been in the business, that I must say I favor it with both hands up; in fact, I will not tolerate a queen in my apiary unclipped, if I know it. I believe it is generally conceded that it does not injure her, but only mars her beauty. Of course, it necessitates keeping tidy around the front of the hive, so she can be readily found when a swarm issues. For me they seldom get more than a foot or two from the entrance, and I have never lost one yet. Just think of the advantage. No nervous excitement for fear your swarm will leave. Just pick up your queen, put her in a cage, move the hive the swarm issued from back a foot or two, cover it with a table-cloth, place the new hive where the old one stood. When the swarm gets tired waiting

for the queen to join them they will come back and enter what they suppose to be their old home. While they are passing in, release the queen and she will enter with them; then carry them where you want them to remain; put the old hive back in its place, and the work is done.

If there is no one to assist you moving hives, tie your queen-cage, with queen in it, to a pole, and they will cluster around it nine times out of ten, and you can carry them to the hive without assistance. Clipped queens for me, every time.

Hilliard, O. JENNIE CULP.

HEDDON'S ARRANGEMENT.

COVERS WITHOUT ENAMEL SHEETS, ETC.

AS to friend Snow's article in GLEANINGS for April 15, page 275, I'll venture to say that he never saw a Heddon hive or a Heddon crate; or if he did, never used either. As to the cover, it suits me "to a letter;" don't want any "telescope" hives around me.

On page 274, same number, at the close of the first article, you say that you would like to look through Heddon's apiary and see if he or his students did not mash hundreds of bees when they placed the cover back on the hives in a hurry. Now, if you can't imagine how to put on a board cover without smashing bees, I will try to tell you. Simply place one edge of the cover on one corner of the hive; now shove the cover over the hive as quick as you have a mind to; not a bee will be killed, for the edge of the cover will brush off all bees on the edge of the hive; no smoking all around the edge of the hive, to drive the bees off. They are cheaper, cost less, and are easier to handle than the kind you use.

I have seen hundreds in actual use, but never saw one (that was properly made) that had warped enough to admit a bee under it. Even if they do kill a few bees, I think that the time wasted in bothering with a cloth or any kind of a mat over the frames is worth more than the few bees killed.

As to that hibernating business that Mr. Doolittle speaks of, I will say that it is no use trying. I have tried the same thing that he has, over and over again, with honey and without honey, and every other way, but they would not survive after a lapse of fifty or sixty hours—no use. I think that Mr. Heddon has "hit the nail right on the head in regard to wintering." BEE.

Malone, N. Y., April 18, 1885.

Friend B., we do not, as a rule, publish letters with no name appended. Of course, we withhold the name where the party desires it, but your letter was sent without any signature whatever, except the one given above. By the way, it seems to me your remarks to the editor of your bee-journal are not very respectful, where you say, "If you can not imagine how to put on a board cover," etc. It has often been said, if you have no respect for the man, courtesy dictates that you should show respect for the office he holds. Before bee-journals had an existence, Langstroth hives, and many others, were made with a cover to slide over the top, as you suggest, and they worked beautifully without any bees in the hives. Yes, they did well for the first season, perhaps, or until fall; and in localities where propolis was not plentiful, *may be* they did well year after year. But our bee-keepers of Medina County, and I guess a great part of our Ohio bee-keepers, will likely smile when they read your directions as given above. Our bees go to work, and cement their cover down tight with propolis. Sometimes they put it on so thick that it runs down inside of the hive, even filling the rabbets, and they seem to be especially fond of daubing great quantities around where there is a joint, such as is made by laying a smooth board on top of hive. Well, with both cover and the top edge of the hive plastered up with this propolis, *sliding* covers on is rather up-hill business. I have covered hives hundreds of times in the way you indicate; for before the Simplicity hive was given to the world, it was the only way we had of doing. I do not know but I shall have to take a trip up to Michigan, expressly to see some of the brethren handle Heddon hives without killing bees. I think I should prefer bothering with the cloth or mat, however, rather than see my bees killed every time the hives are opened.—In regard to Friend Snow's criticism on page 275, I admit that it is hardly kind or courteous; and, by the way, it impresses me just now that I have been allowing almost too much liberty in this direction. Now, friends, if it becomes necessary for us to criticise, can we not all try to be a little more friendly about it, and show a little more of a Christian spirit?

NOTES FROM THE BANNER APIARY.

NO. 65.

HOW THE BEES WINTERED.

LAST fall some of our colonies were given sugar stores in whole, others in part, while others had wholly natural stores. Twenty-five were in chaff hives, with the additional protection of manure banked up around them. Twenty-four were packed about one foot thick with hay, sawdust, and forest-leaves. Eleven were buried in a clamp, and 33 placed in the cellar. Of those in the chaff hives, five are alive. Some of those that died perished of diarrhœa, and the others show no signs of this trouble; they are "just dead." Of those packed in dry leaves, *every one* is dead; a few show *slight* traces of diarrhœa, but the majority are *simply dead*, with clean, dry combs of sugar stores. With the exception of one colony, and that starved by getting over to one side of the hive, the bees in the clamp came out bright, clean, dry, healthy, and strong in numbers. They have wintered the most perfectly that I have ever seen bees wintered. In the cellar, 8 colonies have perished, some of diarrhœa, and others showing no symptoms of it.

One fact stands out beautifully in bold relief—not a colony with nothing but pure sugar stores has perished from, or showed a symptom of, *diarrhœa*. I have noticed this ever since I began experimenting with sugar stores. Last year, when I lost nearly 60 colonies in a clamp, *not one* with sugar stores showed any symptoms of diarrhœa. At last, we have that arch fiend, diarrhœa, under our foot! Having conquered this enemy, we find, however, that there is *another one*. Mr. Heddon says his name is Jack Frost. This we are not yet prepared

to accept, nor yet to reject; but it certainly appears *reasonable* that he bears this cognomen. One thing is certain: Jack thrust his ugly phiz into *our* cellar, and glared at us several times last winter.

I have not seen a more graphic account of the severity of the past winter than one that I read this morning in the *Rural New Yorker*. It was written by Chas. W. Garfield, the genial secretary of our State Horticultural Society. I quote as follows: "We have had a terrible winter. Peach-trees on my place are killed; tender varieties of apples discolored; all raspberries and blackberries killed to the snow-line; plum wood is injured. I went into the woods to see how the oak grubs stood it, and found the young twigs on last year's growth in low places materially injured. I have not examined fence-posts yet, but it must have been 'tough on 'em' in the hollows." As Prof. Cook remarks, in an excellent article in the same number of the *R. N. Y.*, "What is packing in such a winter as this?"

Well, my friends, *packing*, or *something*, has again enabled "Cyula Linswik" and her sister to successfully winter their entire apiary of 61 colonies. Please don't say it is locality, because nearly all the other bees in that vicinity are dead.

The majority of our 40 living colonies are, apparently, healthy, and strong in numbers. It seemed to be something like this: If a colony was going to live, it lived; if not, it died; there was no gradual dwindling away; every colony that was strong and healthy the middle of the winter has remained so.

I must thank Prof. Cook for his criticisms of one year ago upon my articles in favor of burying bees in clamps. Had it not been for this light touch of the spur I *might not* have buried any bees last fall. I will confess that I did not bury the bees because I expected them to winter any better than *any* of my bees, but rather to add another example to the number that are necessary in making a real demonstration. I expect to eventually adopt cellar wintering, not because bees can not be as successfully wintered in clamps, but because it involves less labor.

KILLING BEES WHEN PUTTING ON THE COVER.

I fail to catch your meaning, where, on page 214, you infer that Mr. Heddon or his students smash hundreds of bees when they place the cover back on the hive in a hurry. If you should raise a Simplicity hive off the bottom-board, and then replace the hive, would you kill many bees? I think not. The cases are almost parallel.

FIXTURES VS. DISPLAY.

I do not agree with Mr. Snow, on page 275. A description of fixtures is of more importance than a description of some honey-show. Of what *real* benefit is the latter? And why does Mr. S. indulge in such a *fling* at the Heddon fixtures? has he tried them, and does he know what he is talking about?

THE CONTENTS OF BEE-JOURNALS.

Mr. Smith, on page 266, very nearly expresses my ideas in regard to the contents of bee-journals. If a journal is going to be a bee-journal, let it be a bee-journal, and not a mixture of bees, religion, strawberries, poultry, carp, silkworms, rabbits, tobacco columns, smileries, growleries, etc. I do not object to a discussion of any of these topics, if it is done in the proper place; but I do not consider a bee-journal the proper place in which to discuss them, and I have heard many others express similar views. If GLEANINGS could only be *filled* with such articles as those given us in the last two numbers, by Mr. Doolittle, Prof. Cook, Dr. Miller, and Mr. Heddon, it would tower head and shoulders above its competitors. Perhaps it would be as difficult to receive a sufficient number of such valuable articles to fill GLEANINGS as it would to induce its editor to make the desired change; and we shall probably have to try to be satisfied with GLEANINGS as it is, and thankful if we are allowed the luxury of expressing our opinions.

8—W. Z. HUTCHINSON, 63—40.

Rogersville, Mich., April 17, 1885.

Friend H., I am very sorry to hear you have lost again so heavily, and yet I am glad to see you come out and own up as usual. Was it not the extra care that Cyula and her sister gave their bees that brought them through the winter so safely? Do you know what troubles we have had in wintering *our* bees? Well, lately we have had little or no trouble, and it is, in our opinion, and *in our apiary*, only a matter of careful preparation. Now, why your bees should die when I am quite sure you gave them this careful attention, as well as the rest of us, is something that stumbles me; I can not understand it. Cellar wintering in our locality would probably be a saving of stores, but I can not think it would give better results otherwise than we get with our chaff hives.—In regard to killing bees when putting on the covers, I replied to this in another column. We can not raise a Simplicity hive from the bottom-board, and put it back, without killing many bees, yet the Simplicity hive has the bottom edges narrowed down to almost a knife-edge, as you are probably aware. Whenever we raise the Simplicity hive from the bottom-board in warm weather, hundreds of bees immediately cover it on all sides. If it were as light as the cover, by taking pains we could induce them to get out of the way; but a hive full of combs always crushes more or less. Of course, it can be slid back and forth to open and close the entrance; but this propolis we have spoken so much about greatly hinders this operation, and requires the use of a long screw-driver as a lever very often to get the hive even started.

Perhaps no other apiary in the world of its size has bees handled as much as ours are handled, for we raise more queens than any other apiary in the world, if I am not mistaken. Well, I am glad to be able to say that we handle our bees without killing them, even if a man's time *is* worth more than the bee's life; and if any of the brethren or sisters can take out more queens and send them off in a day than we do, we shall be glad to see them, or have them call and see us. I thought of this when I read what some of the brethren said about the metal corners.—Friend H., GLEANINGS is not devoted *entirely* and exclusively to bees. If you look on the cover you will see "Peace on earth, good will toward men," standing out over and above the bee on the wing; and, God helping me, this little motto shall stand over and above all other things on earth so long as God gives me strength to manage business. Whenever I think "peace on earth, good will toward men," can be better enhanced by bees, strawberries, poultry, rabbits, or tobacco, I shall take them up

without being troubled. GLEANINGS has never lacked patronage since the Home Papers were started. In fact, the calls from almost all quarters of the earth on my strength and time have often seemed as if they would overwhelm me; and, may God be praised that I *have* been enabled to be of use to the brethren; and I thank him a thousand times more for the great privilege he has vouchsafed to me, of being enabled to lead at least a few souls toward the path of eternal life, than that he has prospered me in furthering the cause of bee culture. There are plenty of bee-journals that do not feel called upon to "mix things up," as some of the brethren are pleased to term it. Why not give them a lift, in place of finding fault with the way GLEANINGS is managed? I am sure I am glad to see them prosper; and sometimes, when I feel specially overburdened with a multitude of cares, I have felt as if I would gladly and willingly divide with them a portion of this great amount of business that needs doing by some one.

STORING EXTRACTED HONEY.

HOW SHALL WE MAKE A TANK OF SUFFICIENT CAPACITY TO HOLD A COUPLE OF TONS?

COULD you tell me, through your journal, how to build a honey-tank? A short article will do —one to hold two tons of honey. Don't put this in the waste-basket, as it is important.

Decatur, Texas. JOSEPH ROSS.

A tank to hold two tons of honey would have to hold about 364 gallons, or as much as eight of the largest-sized barrels. Inasmuch as such a receptacle could not well be moved, I should advise putting the honey into cans or barrels; but if the circumstances are such that you really must have a two-ton tank, perhaps your cheapest way to make it would be like our wooden cisterns. In New Orleans all the water that is used is kept in these big tubs, or tanks, and they all stand on top of the ground. But, another thing comes in here: I think it is somewhat doubtful if honey can be stored any length of time in a wooden receptacle, without becoming tainted. Galvanized iron is also objectionable, because the acid of the honey dissolves the zinc. It may not be perceptible unless a little honey should be left standing some time over quite a surface of the galvanized iron. In that case it becomes poisonous, and I would not use galvanized iron for containing honey at all, not even for a honey-extractor. Now, then, what shall we use? I do not know of any thing better than a tank of wood lined with tin. Fasten the tin on to the wood with nails coated with tin, and then solder the heads fast to the tin, using nothing but rosin for doing the soldering. The rosin must then be cleaned off carefully, or that would taint the honey. I believe, my friend, before you get through you will conclude that a waxed barrel will be cheaper, and it is also ready for shipment when you want to ship. I might mention, by the way, that the nicest honey we have ever received from California, or anywhere else, comes in the square tin cases, cased two in a box, each can holding about 60 lbs. Hadn't you better put your honey into these tin cases? If you want a tank to ripen it, however, I would make it of plank, and cover it with tin in the way I have suggested. Very likely some of the readers of GLEANINGS can give us some hints in this matter. I should like to hear from friends Wilkin, C. F. Muth, Poppleton, and others, who handle extracted honey in large quantities.

THE OTHER SIDE OF CALIFORNIA.

IS IT ADVISABLE TO PULL UP STAKES AND GO THERE?

FRIEND ROOT:—I wish to make a few remarks on friend Gallup's article, p. 236. I agree with him in all that he says, with the exception of the last paragraph of his letter. One might be led to think, from what he writes, that a person could make a living here, with a small capital and little or no work. I think that friend G. has done wrong in stating the matter as he did; and for fear that some may come here and be disappointed, I will give a few facts and figures.

California has been painted too much on the bright side, and the result has been that people have flocked here, only to find things different from what they expected. Being among strangers, in a strange land, they become homesick and disgusted, return east, and give California a bard name; whereas, had both sides of the view been presented for their consideration, and plain truths told them, they would have known what to expect, and have been better satisfied and contented upon their arrival here. If one wishes to come here for his health, I say come, as I think that this is the finest climate on earth; but if one comes here to make a living, I would advise him to come with more than $500—yes, or twice that amount. And right here I will say that there is no place on the face of the earth where there are more days of *hard* work done in a year, than right here in California. Good fruit-land is worth from $75 to $200 dollars an acre, with no improvements; lumber, from $35 to $47 per M.; trees, each, apricot, 25 cts.; prune, 20 cts.; apple, 30 to 40 cts.; cherries, 40 cts.; oranges (budded), 50 cts. to $1.00. Provisions are about the same as in the East; some few things are a little higher. Now let me ask, How much land, what kind of a house, how many trees, would $500 pay for, to say nothing about the necessary tools, stock, and household goods, and a person's living until the orchard comes to bearing?

As to our big crops of honey, whether you brother bee-keepers across the Rockies believe them or not, they are facts; the following are from my report of 1885:

Mr. F., number of stands 60—average per hive, 673 lbs.
" M., " " " 200— " " " 400 lbs.
" J., " " " 50— " " " 275 lbs.
" S., " " " 50— " " " 320 lbs.

But for all this, it is not all plain sailing here in keeping bees; it has its drawbacks as well as in the East. One trouble is, the "off years," when bees make no honey at all, and have to be fed or starve; and in the last few years these "off years" have become quite common; and then, foul brood is becoming the curse of this range of mountains (Sierra Madre). There are few apiaries that are not affect-

ed with this disease. Yet for all these drawbacks I would not take, as a gift, and attempt to keep bees, if one would give me the best apiary in the most favorable locality, east of the Rockies. The greatest trouble that I see is your cold winters. I do not believe it possible to winter bees successfully *every* time in such a cold locality, as bees will not live in confinement so long and be healthy.

Duarte, Cal., April 13, 1885. W. W. BLISS.

HIBERNATION.

DO BEES HIBERNATE, OR DO THEY NOT?

DEAR MR. EDITOR:—Doubtless you have noticed the just flagellation which I receive from our good friend Clarke, in *A. B. J.*, Apr. 8. Of course, I ought to have said, "In my judgment, bees never hibernate." Let me add right here, that I do not plead guilty to all the harsh sayings I am credited with. I mean *always* to be courteous. Reporters at conventions must be brief, and so they often give our assertions a sharp twang that we are not responsible for.

Hibernation, I understand, to be like sleep, only far more profound and persistent. In this state, respiration is greatly reduced, the temperature falls nearly or quite to that of the surrounding air, the heart beats very feebly, and has power, through heightened irritability, to circulate impure or venous blood. The animal, when hibernating, takes no food; is torpid, and hard to arouse. In real hibernation there is no emission of fecal matter. Was not the fecal mass you saw in Mammoth Cave the droppings of bats in summer? Most insects do hibernate; indeed, so profoundly that all respiration and circulation are held in abeyance. Indeed, to answer your question in last GLEANINGS, I have had caterpillars frozen to the condition of an icicle, and yet, with warmth, revive and seem all right. De Geer, Reaumur, and Kirby, all record the same startling fact.

Now, how is it with our hive-bees? The organs of the mammals, in hibernation, are as cold, often, as the surrounding air. I have found, by putting a thermometer into the cluster, that in the case of bees the temperature will always range from 20° F. to 36° F. above the outside cold in winter. In severe weather there may be a difference of from 65° to 86°. We thus see that the vital action of bees does not fade out, and, of course, the mainsprings of this action, the heart and respiratory organs, do not greatly lessen, or, much less, fade away. Bees also take food, are constantly changing their position, and are easily aroused. I do not believe that bees can be taken at any time, unless fatally or seriously chilled, and the cluster be broken, in a warm room, and they not show full activity. Therefore I repeat, I do not think that our bees hibernate. The great Kirby, of England, is in accord with this. He says bees do not hibernate (see *Ency. Brit.*, Vol. II., p. 787).

BACTERIA, ETC.

Please allow me to correct a statement in Mr. Heddon's excellent article, April 15, p. 270. "Prof. Cook thinks it (nitrogen) may be taken by consumption of bacteria by the bees." As will be seen by my own article, this is not my view at all. Either my hasty composition, or poor writing misled Mr. Heddon. There is no ground for such a belief. The presence of bacteria makes the presence of nitrogen probable, if not absolutely certain. In this disease, diarrhœa, the bacteria seem always present, whether as a cause or simply as an attendant, I know not. The spores (bacterial seeds) are ever present. With the right conditions they germinate, and the bacteria and consequent putrefaction occur. Perhaps the bacteria cause all the trouble. Perhaps they find a suitable feeding-ground or breeding-place in the diarrhœtic matter of the intestines. A. J. COOK.

Lansing, Mich., April 18, 1885.

Friend Cook, if you will excuse my frankness, I do think you sometimes omit the phrase, "In my judgment," or "According to my experience." At the convention in Michigan I felt like protesting a little because you so flatly disputed friend Doolittle, although the proof you gave seemed satisfactory to me that he was wrong and you were right. In thinking of the matter since then, I have wondered whether the circumstances were not sometimes such that we are excusable for making positive statements. Some time ago a man came to see me, who had a patent on a hive, and the hive did not even embrace movable combs. He made some statements that were so very far out of the way that I flatly contradicted him, in the presence of many others. He suggested that *that was my opinion*. I told him there was no opinion about it; that what he had been telling was untrue, but that I did not know whether he uttered the untruth through purpose or through ignorance. I felt a little sorry I had spoken so, but the case seemed very aggravating. A few days afterward I was told that the man was *crazy*. Now, we who have been discussing this hibernation theory are none of us crazy; at least I *think* we are not (you see I am learning already to beware of being too positive). I have always felt sure, friend Cook, that you intended to imply "in your judgment," even though you neglected to say it.—Permit me to thank you for your explanation in regard to the droppings of the bats. It was a puzzle to me at once to see how they could accumulate guano, and hanging there apparently lifeless (until one took hold of them) for so many months in the year. I suggested that perhaps they were in full flesh when they go in in the fall; but your solution is doubtless the correct one.

By the way, can a thermometer be introduced into a cluster of bees without raising the temperature so as to spoil the experiment? I think I have broken clusters of bees, where they were not seriously chilled—in fact, not chilled at all to harm them—when they acted as if they were dead for as much as—I was going to say five minutes; but as I did not think to note the time at all, may be it was a much smaller portion of time. As I said before, they were tied up together in a hard knot, and it seemed as if it would pull their bodies to pieces to break this knot open before they were warmed up so that they could untangle themselves of their own accord. I should be inclined to think with friend Clarke, that bees sometimes go into a state that is about half hibernation.

A COVER FOR EXTRACTORS.

A SURE THING ON PREVENTING HONEY FROM FLYING OVER.

MY extractor was bought in 1874, and was a rather crude affair, judged by the "standard of excellence" which obtains at present. By strengthening some of the weak points it answered the purpose for several years; then a change from the "standard" to the L. frame necessitated a change in the internal arrangements of the extractor; and as those solid sheets of tin that were used in your first extractors had been denounced as the cause of honey flying over the top of the can, I made a new revolving frame after the manner of the latest style of constructing that article. I supposed that I would not again be troubled with threads of honey flying through the air to a distance of three or four feet in every direction, but the can was rather low for the L. frame; and when it came to thick honey, the annoyance was so great that I just stopped the machine, with the determination to let it stand till I could devise some way to stop the fine threads of honey from sailing over the top of the can.

Work in the apiary was pressing, and something must be done at once. With the view of providing a temporary bridge for the emergency, I borrowed a square of muslin from Mrs. R., took off the large cog-wheel, cut a slit in the center of the square of muslin, to let the small cog-wheel and the standard for the large wheel pass through. Now, when the muslin was drawn down nicely over the top of the can, with the small gear-wheel, and the standard on which the large wheel turns, projecting above the muslin, a twine string was drawn around under the iron hoop, over the muslin for half the distance, and then passed through holes punched in the muslin, and continued around under the muslin, and tied. When finished, one-half of my muslin cover was held securely in place by the twine while the other half was loose and could be opened and closed more quickly, perhaps, than any other kind of cover that has been used. The muslin prevents the current of air, and there is no honey thrown against the under side of it; and after using it several years I am so well satisfied with that plan of keeping all dust out of the can, and all the honey in it, that I would not willingly do without it or exchange it for any other kind of cover I have seen.

East Springfield, O. R. M. REYNOLDS.

From your description, friend R., I presume the usual cloth cover we send out with our machines could be used in the same way, by making a hole in the center for the small gear-wheel to pass through. The cover will then need to be fastened with a cord, so that the rubber band may be drawn back, uncovering just half of the top of the can. This permits the combs to be put in and taken out, and is very quickly put back in place. None of the extractors we send out now are faulty in this respect, I believe; but those from other makers, and those we made some time ago, may be quickly fixed on the plan friend R. mentions. It seems to me it would be quite a hindrance, to be obliged to uncover part of the extractor, however, every time we lift out combs or put them back, and I should much prefer an extractor made so no cover of any kind would be necessary to keep the honey from flying over.

HEADS OF GRAIN
FROM DIFFERENT FIELDS.

PYRACANTHA, BEES, ETC., IN GEORGIA.

IN a recent issue of GLEANINGS you call for information as to the value of pyracantha for bees, etc. At Griffin, Ga., pyracantha grows to the height of from 8 to 12 feet, and flowers in profusion in the spring. It is much frequented by the bees, but I don't know whether it is for pollen or honey. I will watch more closely this spring, and ascertain. Pyracantha is a perfectly healthy bush, and makes the best hedge for the South. Our spring opened a month later than usual this year; and the result is, the bees have had a hard time. The apple is now in bloom, and every thing will now move off nicely.

Griffin, Ga., Apr. 21, 1885. W. E. H. SEARCY.

BUYING OLD COMBS TO RENDER INTO WAX, ETC.

The farmers around here have lost much over half of their bees. Last year's swarms nearly all died. The principal cause is starvation. Only a few of the earlier swarms stored enough to live on.

I have recently learned a lesson. Experience taught it me in a way that I do not want it to do again. I bought up a lot of old comb to render into beeswax, paying from eight to ten cents per lb. for it. I found it lost two-thirds in rendering. That is, I paid about 30 cts. per lb. for it, besides the investment of time and labor, when I may not get 30 cts. for it.

DAMP CHAFF CUSHIONS.

My chaff cushions are covered on the under side with cloth. They will get wet and moldy sometimes from necessity. I can not take them off and dry them every time they get wet in the winter. Now, is that moldy or rotten chaff as good a non-conductor of heat as that which is dry and fresh?

Finally, I should like to put myself on record as one in hearty sympathy with your position on tobacco. Before I ever heard of GLEANINGS I was a temperance, prohibition, anti-tobaccoist, and it delights me exceedingly to find a journal, not specifically devoted to morals or religion, *sitting down* so hard on the weed, and all such dirty indulgences.

Mechanicsburg, Ill. GEO. F. ROBBINS.

Thanks for your report about the wax, friend R. The question has come up several times, as to how much one could afford to pay for empty combs. We have tested several lots, and find it varies a good deal in the amount of wax yielded. New combs and cappings will give perhaps from $\frac{1}{2}$ to $\frac{3}{4}$ parts or wax; but old heavy combs often do not give more than $\frac{1}{4}$. Our plan is to decline purchasing, but tell the friends we will try out their old trash for a cent a pound, and sometimes the time spent makes it a losing business even then.—I am inclined to think the dampness is caused by the extra cloth covering on the under side. Since we have adopted the coarse burlap as a material for making chaff cushions, we have been much pleased to find the dampness pretty much all done away with. The idea is to get something as near like loose chaff as possible, and this burlap is so porous that the air goes right through it, drying out any moisture that may accumulate during severe zero weather. I should say that the moldy or rotten chaff would not answer at all.

WHAT THE PEOPLE SAY.

This beautiful April morning I feel in some respects as did Mr. Waldo, of Quincy, Ills.; not on account of my loss in bees, for I have succeeded in wintering two colonies out of three, while I know of some who have lost nearly their entire stock, but on account of the remarks of other people, such as, "What makes you *fuss* with your bees so much?" "you fuss with them so much they never *will* amount to any thing;" "they are a nuisance to you;" "you never will make any thing from them." And when I lose, which is quite frequently, they will say, "There, I told you so," and all such like remarks. Instead of helping a fellow by some word or suggestion, most of these remarks come from people who don't know a queen-bee from a blue-bottle fly. Perhaps you have traveled over about the same road that I am on now; if so, you know something how I feel. No one ever had a more genuine love for the business than I. I have been keeping bees eight years, and now have only two colonies, and have spent at least, for labor and material, $150. If I must give up the business it will be with many misgivings. Probably this will find its way into the waste-basket. If so, of course that is the place for it. B. H. BRADLEY.

Eddyville, N. Y., April 17, 1885.

Friend B., may be some of these remarks come because you have been telling too much what you are *going* to do with the bees. Now, just stop telling, and go to *doing*. When they make such unkind remarks, reply pleasantly and mildly; own up that the business is somewhat risky, if need be, but let your acts speak instead of words, and by and by you will find that your neighbors are all standing by your side, and quoting you, and feeling proud of having so enterprising a man in their midst; that is, if you persevere until you become master of your chosen avocation.

He that tilleth his land shall have bread; but he that followeth vain persons is void of understanding.—PROV. 12: 11.

SAVING THE SEED FROM BORAGE.

How do you save the borage seed? Our bees have wintered well. I lost but one swarm out of 30, and they were smothered. R. H. MILLER.

Akron, Iowa, April 9, 1885.

Friend M., it is a slow process, the best way you can fix it; for the seeds are ripening every day for a period of many weeks. The way we do is to take a large sieve, bend over the plants when the seed is ready to jar out easily, then strike the plant with a little stick or paddle. The size of meshes of the sieve should be such as to let dust and rubbish pass through, but not the borage seed. When you have been clear over your borage patch, take another sieve that will just permit the seed to pass through, then you will have it tolerably clean. Passing it through a fanning-mill afterward, however, will make it still better. I know this is some trouble, but it is the only way to manage with seeds that ripen day after day for a long while, like borage, spider flower, Simpson, and most of our honey-plants. The difficulty of gathering them is one reason why many of these seeds can not be furnished at a lower price.

SAD AND SUDDEN DEATH OF ONE OF OUR BEE-FRIENDS.

I was called yesterday to look at the apiary of J. H. Struberger. You know him somewhat, as he has been taking GLEANINGS, and trading with you. By the way, you may not have heard of his sad death. He was returning from New Orleans, about three weeks ago; and in crossing the Ohio River at Evansville, Indiana, in passing from the transfer-boat to the tug-boat, he fell overboard, and not even his body has been found up to date. He was one of our best citizens, having many ennobling qualities.

El Dara, Ill., April 2, 1885. T. C. BUNKER.

We are very much pained to receive the above news, friend B.; but I have given it here because a caution is needed to those who are not much accustomed to traveling. Do not incur risks. There is rarely a case where plenty of time is not afforded to get on or off from boats or trains. Wait until the proper time comes, and be careful how you step, or what you do. Many lives are lost because people get restless and uneasy in traveling. They get out on the platform, or get off at stations, simply for curiosity. Better keep your place, and move with the crowd, in an orderly and careful manner. I was not aware that people are often lost in the way you mention, so that not even the body can be recovered.

WOOD VS. TIN FOR SEPARATORS; ARE WIDE FRAMES TO BE LAID ON THE SHELF?

Before stating a few facts I wish to say I have great faith in A. I. Root. I believe he will publish any thing he thinks is for the interest of bee-keepers, even though his sales should be greatly lessened thereby. It does seem a pity that so many tons of tin are sold for separators, money wasted, when (fact No. 1) there are bee-men in this county who have raised comb honey for 10 or 15 years, keeping from 100 to 200 stands, who would not use tin for separators if it were furnished free of charge; they like wooden ones better. Another fact. Just now when the Heddon system is all the rage, and wide frames are to be laid on the shelf, it has been demonstrated in this county, by two years' experience, that a hive using wide frames will average double the honey to the hive, right through the apiary, that a hive will using the rack on top.

Bees have wintered all right where taken care of and fed. I have lost and doubled down to 125 from 160. This is the first time I have worried the editor of a bee-journal, and perhaps the last.

15—F. J. FARR, 125—160.

Buckner, Mo., April 8, 1885.

Friend F., you will never weary the editor by giving him plain facts from experience, like the above you have stated. Our experience with wooden separators, however, seems to be just the other way from what you state it; but perhaps ours were not made right. Although we have advertised wooden separators for some time, our customers seem to prefer tin to any thing else, and this year is no exception to the years that are past. I am inclined to think a good colony will usually store more honey in wide frames than with any arrangement we have yet had in the way of crates or cases. The extra trouble of handling wide frames, however, may more than make up the difference.

A SUGGESTION IN REGARD TO HAVING THE MOORE OR HEDDON CASES SO MADE THAT SEPARATORS MAY BE USED.

I would suggest an improvement in the Moore's crate, so that it can be used with separators. Instead of making the ends and partitions in one piece, have a piece an inch or ⅞ wide, to which fasten the tin and a piece ½ inch wide, even with the top to stiffen the rack, and hold sections square. A separator 2¾ inches wide can then be used between each row of sections. I have made some racks like the above, and think they will answer my purpose better than any thing I have seen.

In reading the article on wide-top brood-frames, by Alley, I think, the following idea came into my head, and I should like to have your opinion of it. Would not a strip of tin 1½ inches wide, tacked on the top of the brood-frames, prevent brace-combs up to the rack, and at the same time leave each frame loose? P. A. GARRETSON, 28—35.

Hillsborough, N. J., Apr. 7, 1885.

Friend G., your suggestion is ingenious, and is to me a new thought. I presume you mean that the upper strips should be made movable, although you do not say so. It would be a little more work to make and to handle them; but the separators would go in nicely. There would be one trouble if sections were to be removed as fast as filled: The bees would get over into these spaces between the sections, and could not be got out without some care and trouble in replacing. In these spaces they would probably be imprisoned, and starve to death. The loss might not be great; but I should never want to close a hive, knowing that I had left a single bee in that predicament. Tacking thin pieces of wood temporarily to the top-bar of a brood-frame is an idea that was experimented on and reported in the *A. B. J.* as much as fifteen years ago. I believe it did not give very good satisfaction, though tin bars might succeed better; but I think it would be a good deal of machinery and bother.

FIVE SWARMS IN SUCCESSION FROM A SINGLE HIVE.

I have one hive of bees that have sent out five swarms since March 1st; the four last swarms came out in succession, one each day. James H. White, of this place, says that he has never heard of such a thing before, and that he doubts their having queens. What do you think of it? They seem to be working all right. The first swarms have made combs. GEO. CLEVELAND.

Rockledge, Fla., March 20, 1885.

Friend C., my explanation of this matter would be, that the old queen was lost by some means, and a lot of young queens were raised. Instead of the first ones destroying the rest of the cells, a lot of them got loose at once, as sometimes happens; then came secession and dividing up. Do you not find that it is a week or two before any of these swarms have eggs in their combs?

CHAFF HIVES NOT BEHIND SIMPLICITY HIVES, AFTER ALL.

In your answer to my letter in GLEANINGS of April 1 you were surprised at loss of bees in chaff hives, while none were lost in Simplicity hives up to date. In justice to the chaff hive, I would like to add, that the bees in Simplicity hives all died in the following severe weather of March. I found, upon examination, their stores were much the better—which accounts for their holding out longer. I have five swarms left in chaff hives.

LaGrange, O., Apr. 15, 1885. E. F. WILCOX, 35—5.

Friend W., I am not glad to hear that you lost the bees afterward, in Simplicity hives, but I felt pretty sure there was some reason for this apparent difference. From the way in which you speak of stores, we might infer that the trouble was not in the severity of the winter, but in the lack of stores. Now, suppose you had fed them up until sealed stores of sugar syrup were all around the cluster, as I have told you; namely, behind and before, on the right and on the left, and overhead and under foot; that is the way I like to see bees provisioned. When they are fixed that way, my experience has been that they get along a good deal better than where there is a good heavy comb off at one side, or several pounds of honey in the further corner.

REPORT FOR THIS LOCALITY.

One man had 11 colonies, and lost all; another 10, lost all but two; another 14, lost all but one; another 1, and had 5 left three weeks ago, but thought it rather doubtful, as they were so weak, about getting through at all; another man living right near here had 16, fall count; and some in chaff hives had, the first of this month, only two left, and those very weak and feeble.

Some time ago I spoke of having dragged out a queen from under a hive. I took it to be one, at least, and took it with a worker-bee to a very prominent bee-man of our county for examination, and he pronounced it a queen at first sight. It was shriveled up considerably, is what bothered me; so after writing to you it stayed so cold I thought it useless to think of getting a queen in time to save them, and the 24th day of March I drew the hive out of winter quarters for the purpose of distributing among the others, and, on taking out the second frame, I discovered young bees; and on the fourth frame, eggs and larvæ, of a fine hybrid queen, which gladly surprised me. Now, there is a myst-ry somewhere. E. B. HAUGHEY.

Pearson, Fayette Co., O., April 13.

No mystery at all, friend P. The hive you mention had two queens, a young one and an old one. The old one died, and you had the young one left. When she was fertilized last fall she met a common drone, and therefore the brood will be hybrids.

APIS DORSATA; A SWARM CAPTURED AT LAST.

As a postscript to my last letter on *A. dorsata*, I have the pleasure to inform you that I have at last captured a swarm, and have it safely hived in an observatory hive. There are about half a bushel of bees, and are they not magnificent fellows? My hive is about 6 feet tall, and 3×3 wide and deep. The bees were secured on a very high tree, on which were 13 other swarms. The limb was cut off, and forms the top-bar for the brood, and hangs like a Simplicity frame in the hive. I have had a sheet of glass, 9×16 inches, put into the back of the hive, and a door made to shut all up, when one does not want to watch them. The brood-comb is about 14×16 in., and is solid with brood. I see no pollen or honey in the comb. There are young bees and

old. The old have the abdomen a bright yellow, with narrow black bands, while the young (?) are much darker in color. But I can not speak with much certainty, for I have not studied them long enough yet. They sting, but the sting is not much worse than that of the *A. Indica*—at least I judge so; for in putting them into place, my assistant was stung four times, but it was not followed by swelling. The sting is much larger than the common bee, of course; and as one of my Karens said last night, "It makes a hole at once." Yet I judge that it is bearable.

Their wings are beautifully irradiant; and looking at them on their comb by night, with a strong light, they are most beautiful. This morning they are going out and in their hive, and looking all about their home. Will they stay and go to work or not? is the question; we shall see. I have saved some of the dead ones to send to you when they are dry; and as I learn more about them I hope to have something of interest and use to report.

One thing I notice. They are far less excitable than *A. Indica*. They move slowly, do not dash about their cage, and struggle for exit like that bee. They impress one, however, with an idea of "reserve power," if they have a mind to use it. I do not think they are quick on their combs to repair damage, but can not yet speak with definiteness. I wish this swarm were safe in your apiary. I also have a swarm of the "melipona" working well.

Toungoo, Burmah, Mar. 7, 1885. A. BUNKER.

MORE ABOUT THE WILLOW-HERB.

For two years I have noticed my Italians working on the willow-herb, or purple fireweed. It is beginning to grow in profusion here, and I have several times been on the point of sending off a sample, for name; but your description of it, on page 48 of GLEANINGS, is too clear to leave room for doubt as to its identity. We live near the summit of the Allegheny Mountains, 1400 feet above sea-level, in the pine and hemlock regions; and as the timber is being cut very fast for logs and tanbark, the fire overruns the hills every year or two, and both species of fireweed grow abundantly, and both yield honey, as I am informed; but the purple is the only one on which I have noticed the bees working; and, by the way the bees "take" to it, and the length of time it is in bloom, it must rank next to white clover here as a honey-plant, and our honey is of excellent quality. It has the peculiarity of sending up a flower-stem, which begins to bloom at the base, and frequently the lower seed-pods are in "cotton" with matured seed, while the flowers at the top are just opening, which makes the honey-flow of long duration. I have kept bees but two years, so I suppose I belong to the A B C class. I got of comb honey, 400 lbs. ABEL GRESH, 7—26.

Weedville, Pa., Jan. 29, 1885.

CONCERNING DEAD OR TORPID BEES.

The other day I found a colony that had been breeding rapidly, and had exhausted their stores, and several cold stormy days had prevented me from supplying their need. They stood thick on three or four frames, all apparently defunct. Holding up a frame to look more closely I breathed on them, and saw a faint tremor of wings and legs. Near by was a queenless colony with a few workers and drones, small dark fellows whose heads I had pinched off a short time before. I got these orphans on two combs, and put them between the dead ones. The queen fell on top of the frames, and the live bees rushed up astonished.

Take her up tenderly,
Lift her with care,
Fashioned so slenderly,
Young and so fair.

Well, they warmed her up and fed her, and resuscitated all her family — twice their number. Query—Will a queen that has been starved and chilled produce any thing but drones hereafter? I believe the authorities say she will produce only drones. D. F. SAVAGE.

Casky, Ky., March 30, 1885.

Friend S., your queen will, without doubt, be just as good as she ever was. We have resuscitated a great many in the same predicament, and never found them drone-layers, although more severe freezing might perhaps have that effect.

CELLAR WINTERING.

I came out last spring with 15 swarms; lost 33; 8 of the 15 were good swarms; increased to 34; got about 20 lbs. surplus to the hive. Last year was a poor one up here. I fed a few swarms up on sugar; put them in the cellar the 20th of Nov.; my cellar I built last fall on purpose for bees, under my house. It is very dry, but still there seems to be something wrong with my bees. All through December, up to the 15th of January, they were noisy. They would crawl out and drop on the floor, and die. The ground was covered in front of the hives. When I put them in I raised them off the bottom-board one inch. The 15th of January I let them down on the bottom-board, and shoved the hive back, so there was an opening on the back. Since then they have been quiet, and but few bees dying. I examined them to-day, the 17th of February. There seem to be plenty of bees, and not a damp or moldy comb. The glass stands 36° in the coldest weather, and moderate weather 40. Now, what was the trouble? Will some one tell me through GLEANINGS? I have been a bee-keeper for 30 years, and thought I knew as much as any man, but find I can learn something yet. L. REED.

Orono, Mich., Feb. 17, 1885.

Friend R., I am inclined to think your bees were too warm when they were so noisy. I do not believe letting them down on the bottom-board, and pushing them back, made any material difference. When the weather became cold, your cellar probably got colder, and this was what made them quiet.

A SOURCE OF PLEASURE IF NOT OF PROFIT.

I am a shingle sawyer, in a mill in the north pine woods of Michigan. Four years ago I bought a swarm of bees in their natural home, a large pine-tree. The next year I had five swarms from them; but being inexperienced I have not yet derived much profit from them; still they have been to me a constant pleasure. Though being in a mill at work, I am very anxious to learn how to prevent natural swarming.

I began this year to take the *Apiculturist*, and sent you for a sample copy of GLEANINGS, thinking to try it for six months. Upon receipt of it I read the article entitled, "The Michigan State Convention; What I Saw and Learned," and decided at once to take it. C. F. JOHNSON.

Deer Lake, Mich., Feb. 2, 1885.

ARTIFICIAL COMB HONEY.

The Philadelphia *Farm and Garden* calls their April No. their annual strawberry number, and a grand good number it is; but one of the best things in it is an editorial, hitting a blow at just what we have been writing on for two months past. See what you think of it:

Our vocabulary has no words strong enough to condemn in fit language such "scientific pleasantries" as the one which appeared lately in the New York *Mail and Express*, and has since been going the rounds through the American press. The article is given prominence by the flaring headlines—"Human Ingenuity to do away with the Work of the Bees," and describes an imaginary and utterly impossible method of manufacturing comb honey artificially, altogether without help of the bees. While American bee-keepers have been and are still working earnestly to find a market for their produce, while even now the purest extracted honey goes begging in our city markets on account of the glucose scare, the great city papers try to make all these efforts come to naught, and to make the consumer afraid of the most natural, most delicious, and most wholesome sweet, in the shape of comb honey.

This so-called scientific pleasantry is nothing but a willful and malicious lie, and one which strikes a fatal blow at the interests of the American bee-keeper. The great newspapers refuse to yield to the demands of interested parties for a proper correction. The damage seems to be well-nigh irreparable, for the agricultural press does not reach the honey-consumer in the cities, among whom a press so hostile to agricultural interests chiefly circulates.

Let us say, however, that both the inventor and publisher of such infernal lies deserve a good long term of free board and lodging in the penitentiary.

REPORTS DISCOURAGING.

SHALL HE GIVE UP?

MY subscription to GLEANINGS has run out, and so have my bees; and I am in doubt whether to have any thing more to do with either. A year ago I lost 30 colonies, but had 20 left; and although they were very weak I got about 700 lbs. comb honey, and increased to 30 colonies. I put them in the cellar with ten frames of honey to the hive. I filled the half-story cap with fine shavings, and tacked sack cloth over, and put on the hive with the oil cloth removed. I put 15 in a wing cellar, and 15 in a cellar under the wood-house, both shut off from the middle cellar. I did this because I thought I kept them too warm the winter before; but this winter has been so very cold that I presume the temperature in the wood-house cellar was down to 0 for six weeks at one time, and that under the wing not much above it. Well, the bees are all dead, and most of the honey left, and which is molded slightly in a few hives.

I think I shall not give up entirely, but get a swarm or two and try again on a small scale. I began with two swarms, which increased to fifty in three years, and I spent considerable on Italian queens, etc., but they are all gone now.

GEO. H. PATCH.

Stevens Point, Wis., Apr. 21, 1885.

Friend P., your bees were no doubt worse off in that cellar than they would have been outdoors, and this is one great reason why I have been so loth to advise wintering. The temperature of your cellar went down to zero, you say. Well, the tendency of the cellar then was to keep the bees at zero when they would have been warmed up a great many times if outside. The same way we often find frost even now under heavy mulch. During the severe weather it froze down to a great depth, and the mulch, or protection, has had the effect of keeping or prolonging the excessively low temperature. Chaff hives, you will notice, may let the temperature go down to zero, or even below it; but they also permit it to rise, when the surrounding air rises, in a *comparatively* short space of time.

LOSS ON ACCOUNT OF HONEY-DEW.

The loss in bees through this section the past winter is the heaviest that has ever been known—fully 95 per cent. Cause, no good honey last season after June, hence the region of the brood-chamber was supplied late in the season with an unusual amount of pollen and a small supply of bug-juice. Bees that were fed in the fall on sugar or good honey have wintered well.

R. B. ROBBINS.

Bloomdale, Wood Co., Ohio, Apr. 1, 1885.

ONLY 2 LEFT OUT OF 53, CAREFULLY PUT UP FOR WINTER.

Last season I increased to 60 colonies; but as we had almost a total failure of honey I had to double back to 53 in the fall. I fed 15 colonies 150 lbs. granulated-sugar syrup. I put a Heddon case on the top of each hive, filled with dry forest-leaves, and left them on the summer stands. Now for the result:

Out of the 53 thus prepared I have just *two* weak colonies left! Surely I am ready to go into Blasted Hopes. No, *don't* put me there, for I am going to "try again." I have the hives, combs, etc., and I propose to get some bees by the pound, and stock up again. I find sealed brood in nearly all the hives, the eggs evidently laid during a warm day or two we had about the 7th or 8th of Jan. This divided the cluster, and caused the bees to spread over the patches of brood, and thus they perished with the long protracted cold that followed; but, what induced the queen to lay so early in the winter? Was it because the honey of last season was miserably poor stuff, gathered from grapes, some rotten apples, and unusually mixed with pollen? It was so pollenized as to be, much of it, absolutely bitter; much of it was watery and sour. Most of my colonies had diarrhœa badly; some had 25 to 30 lbs. of honey left.

At the meeting of our N. Kansas Bee-keepers' Association, held April 3, the reports were gloomy enough, one or two exceptions, and those were in favor of the *cellar*. I think that the losses in this region will not fall any short of 90 per cent. Some have lost all; most have only one or two colonies left.

J. W. MARGRAVE.

Hiawatha, Kansas, April 17, 1884.

ONLY 24 LEFT OUT OF 80.

I think that fully three-fourths of the bees in this county are dead. I had 80 stands last fall; now have 24 left, many of those with only a handful of bees in a hive. Many I hear of have lost every swarm. Ellwood Spencer, a neighbor, has 15 left out of 80 last fall. I wintered 46 of mine on their summer stands in Langstroth and Simplicity hives; 9 out of the 46 are yet alive; 34 I had in a cave, and 15 of those are alive. Most of those that died in the cave starved to death, while those on their summer stands left plenty of honey.

S. L. SHERMAN.

Oskaloosa, Iowa, April 7, 1885.

REPORTS ENCOURAGING.

WINTERING IN A SIMPLICITY HIVE WITH NOTHING BUT A MAT OVER THE FRAMES.

THE past winter reminds me of the winter of 1880. I hear of heavy losses of bees all around in my vicinity. I have not lost any except one four-framed nucleus. The greater portion of my 54 colonies are in excellent condition—just booming with bees. I had one colony that wintered in a Simplicity hive with nothing over the frames but one of your basswood mats and the hive-cover. I was afraid to examine them, for I was almost sure that I should find them dead. You may imagine my agreeable surprise to find them in good condition. The queen is a large, prolific, full-blooded Italian; and her workers, large, hardy, and good honey-gatherers. They were on 9 "slabs" of white-clover honey that they stored away themselves. This is pretty good evidence, I think, that bees will not freeze, but still I think it pays to give the little fellows proper protection; and after five years' experience with Root chaff hives I consider them the best hive for both winter and summer use. I always find bees all right in chaff hives; combs dry, and hive nice and clean. 5—J. P. MOORE, 54—53½.

Morgan, Ky., Apr. 14, 1885.

Friend M., my opinion is that your bees in the Simplicity hive were so strong and healthy, and so full of good wholesome stores, that they came out all right *in spite* of bad protection.

A GOOD REPORT FROM OREGON.

Apr. 5 we had one swarm come off, and a big one too; yesterday two more came off, and all our stands are very strong, with lots of new honey. Think of it, over 600 miles north of Chicago, and surplus honey in March! "Busy bees" haven't lost an hour on account of weather since March 1st. We have some very fine apple-bloom honey, sections complete, and now white clover is coming out fine; look out for astonishing reports. No feeding has been done, none needed. Of course this is not usual, as we have generally to complain of considerable moisture in March. CHAS. LEE.

Portland, Oregon, April 8, 1885.

MY RECORD FOR 1884. FROM 14 TO 40, AND 1620 LBS. OF HONEY.

Spring, 14 colonies; honey, comb, 450 lbs.; extracted, 1170 lbs.; fall, 40 colonies, five nuclei. 1885. Spring, 40 colonies, four nuclei. How does that look? No Blasted Hopes there. E. B. CRANE.

New Canaan, Conn., Apr. 13, 1885.

2750 LBS. OF HONEY FROM 22 STOCKS.

The year 1884 was an unusually good season with me for honey; from 22 stocks, spring count, I took 2450 lbs. in comb honey, and about 300 of extracted, mostly sold, averaging about 16¼c. My bees are all in tiptop condition to date, notwithstanding they have had access to plenty of pollen. This is the fourth season I have packed them on summer stands without regard to pollen (but a good supply of early-made honey), and have never lost a stock, or had any signs of dysentery in my yard. I get most of my swarms in May; pollen is no terror with me, providing I have the other requisite.

C. L. BOSTWICK.

Sandy Hook, Conn., March 28, 1885.

ONLY ONE LOST OUT OF 120 IN WINTERING.

We take pleasure in sending in our report this spring. Cellared 120 colonies, Nov. 17, 1884; finished setting them out, Apr. 15, 1885. One dead in cellar, one swarmed out since setting them out (queenless); perhaps there are six to ten that will have to be helped some, as they are rather weak; the rest are in nice shape, except they may need feeding some on account of no fall run of honey last season.

9—D. E. L'HOMMEDIEU & BRO., 96—120—5000.

Colo, Ia., April 19, 1885.

P. S.—5000 stands for the surplus taken in 1884.

ONLY 2 LOST OUT OF 80.

Our bees have wintered well; lost only 2 out of 80. Bees have been gathering pollen for the past two weeks, and are building up very fast. I think we have done very well, considering the losses of the older bee-keepers. WM. M. ROSS.

Lebanon, Ills., Apr. 10, 1885.

A GOOD REPORT FROM CAVE WINTERING.

I put 55 stands of bees in a cave the 1st of December, and took them out the 1st of April. Two were weak when put in, and should have been united when put up. They went up. The mice destroyed the rest; all came out right. Experience has taught me that plenty of ventilation is the one thing necessary to successful wintering in caves. I have a 4-inch chimney in the roof of my cave, and last fall I put a 4×4-inch tube, 16 feet long, below the freezing-point down in the ground, and brought it into the cave at the bottom at one corner, and during the very cold weather I put an oil-stove in the cave and kept the temperature at from 40 to 45°. I never had bees winter better than last winter. The cave is in a sandbank, nice and dry.

JAS. H. BROWN.

Cherokee, Iowa, April 7, 1885.

ONLY 3 LOST OUT OF 130.

On the 20th of Nov., 1884, I put 130 colonies into my cellar. On the 5th of Apr., 1885, I carried out 127 live colonies. At the present date there are 10 colonies that are weak, the rest very good. I packed 9 colonies in chaff, on summer stands, 5 of which are dead. The rest are fair colonies. Yesterday it was 25° in the shade at 7 A.M., and froze all day. To day we have a furious snowstorm, with no sign of improvement. Not very encouraging weather for bee-keepers. W. ADDENBROOKE.

North Prairie, Wis., Apr. 14, 1885.

THE SYRIANS AHEAD.

My report for 1884 is small. I lost all my black colonies but one, and sold that. One colony of Syrians increased to 5, and gave 30 lbs. of honey. I should have tried for more honey and less increase, if I had been at home. E. L. TARELL.

Presque Isle, Me., March, 1885.

FROM ONE TO FIVE, AND 50 LBS. OF HONEY.

I bought one colony in Nov., 1883; increased to 5; got 50 lbs. of comb honey. They are all alive at this date. I have them packed in chaff. This winter has almost cleared this neighborhood of bees.

Howells, Mich., Apr., 1885. DILLAN GEORGE.

LESS THAN 5 PER CENT LOST IN AN APIARY OF 175 COLONIES.

Bees have wintered splendidly; loss less than 5 per cent out of about 175 colonies; about one-third in chaff hives, the rest in single-walled hives; all wintered out of doors. I can see but little or no difference in the results of the different hives; all

had chaff cushions, but none had chaff-cushion division-boards. Those that died, died of starvation; but the prospects are not very promising for a good honey yield for the coming season, as the clover is badly killed out in many places.

Centerville, O. G. W. LAWSON.

I would not be in haste to borrow trouble, friend L., for the clover sometimes catches up wonderfully, under the influence of favorable weather.

FROM 4 TO 11, AND 145 LBS. OF HONEY, ETC.

I began the spring of 1884 with 4 colonies; increased by natural swarming to 11, and took 145 lbs. comb honey. Now a question: Do bees raise bees all winter, even when it is freezing cold? On the 26th of February I found 6 fresh young white wingless bees in front of one hive, that being about the second day that was warm enough for them to fly for about a month. They carry pollen into every hive now when it is warm enough. J. S. DANIEL.

Siloam Springs, Ark., March 8, 1885.

Bees do raise brood every month in the year, even away up here amid our frosts and snows, friend D.; that is, they do occasionally. Most colonies will, however, have but little brood during December; but in January and February, almost all strong colonies contain more or less.

ONLY ONE DEAD OUT OF 73.

Out of 73 colonies left on summer stands, packed with straw and chaff, one has died. The rest seem to be in pretty fair condition, as they seem to want to rob one another pretty lively, while all defend themselves well. The neighbors report some all dead, and some about three-fourths, and others one-half dead, while some think the survivors will perish on account of not having enough honey to build up on. While the cold weather still stays with us, having a snow this morning two inches deep, not much prospect for a very early spring.

Lima, Ill., March 21, 1885. J. A. THORNTON.

FROM 4 TO 13, AND 300 LBS. OF HONEY.

Here is my report for 1884: Spring count, 4 hives; increased to 13 by natural swarming, and got 300 lbs. comb honey. I took GLEANINGS last year, and have the A B C book, and I like them very much.

F. B. STEPHENSON.

Deep Water, W. Va., Feb. 17, 1885.

FROM 6 TO 10, AND 120 LBS. OF HONEY.

We commenced last spring with six stands of bees; increased to ten, which are all alive at present, and got 120 lbs. of comb honey, surplus. The honey season was cut short by the extreme drought.

F. C. THOMAS.

Spring Valley, Ohio, March 17, 1885.

ONLY ONE LOST OUT OF 24.

In the last issue of GLEANINGS I notice many discouraging reports, especially to beginners; but I shall take fresh courage, and go ahead. I started in last spring with 14 colonies in hives of my own make, movable frames, no name for them. I increased by natural swarming to 30; united to 24; came out this spring with 23, some dead bees in each colony. Through the coldest weather in January and February I kept them covered with snow, head and ears—no other protection, except quilts over the frames. I will try to do better next winter.

Please tell me how to save comb from the moth during summer, as I can get all the comb I want from my neighbors who have lost their bees. I can buy all the bees I want for $1.00 to $1.50 per colony, in box hives. E. FARABEE.

Tina, Carroll Co., Mo., Apr., 1885.

Friend F., shut your combs up in a tight box or tight room, where the moth can not get at them, and there will not be any trouble in keeping them over summer. See Bee Moth in the A B C book.

A GOOD REPORT FROM FRIEND PEIRCE.

Nov., 1884, 46 colonies; Apr. 20, 1885, 42, and better filled with bees than any previous spring—chaff hives, sack of dry soft shavings over the frames, front entrance of the hives all open. The 4 dead colonies were full of bees, but starved. I am ashamed to write it. J. H. PEIRCE.

Dayton, Ohio, April 20, 1885.

ONLY ONE LOST OUT OF 33; SAVED BY NEGLECT.

Contrary to expectation, my bees have wintered well, having lost but *one* out of 33 last fall, and that one was queenless. My bees were not prepared at all for winter, on account of my absence from home when they should have been cared for, and my inability from rheumatism and heart disease after getting home. They were all just as left, about the first of July. Some had wide frames with section boxes in the upper story (chaff hive) and some were full of L. frames above, with nothing but roof of hive above the frames, and others were partly full above, and some with cushions or honey-board above brood-nest, and all did equally well, as far as I can see. Some had the upper story full of sealed honey, and some not very much. It was very dry last fall, and I expected the bees around here would die of old age. Many did; but mine were saved by neglect. T. F. WILSON.

Milan, Ind., April 12, 1885.

Friend W., it does seem as if your bees lived in spite of their want of care; but I guess the truth is, they had an abundance of good wholesome stores; and when this is the case they will stand almost any kind of ventilation.

MRS. LUCINDA HARRISON'S REPORT.

We commenced to carry our bees from the cellar April 1, and they are now all on their summer stands. I've not examined them yet, but, judging from their flight, they are generally in good condition. It is cool to-day, as there was a hard freeze last night, which formed thick ice. Bees carried in pollen on the 4th and 5th of April, for the first time this season.

BEES UNITING IN THE CELLAR OR BEE-HOUSES.

Do bees ever unite in the cellar? Our bees had on Hill's device, covered with a muslin sheet and comforter, and piled one upon another with intervening sticks. A few hives had no bees; and in every instance the hive beneath was running over with bees, appearing as if they had moved into one hive. MRS. L. HARRISON.

Peoria, Ill., April 8, 1885.

Yes, my friend, they will unite very often when the hives are too close together, and a broad entrance permits them to pass to and fro. You will have all your bees left, but are usually minus a queen. If you examine these overpopulous colonies as soon as taken out, however, you will oftentimes find both queens alive; and by promptly dividing a colony you will be all right again.

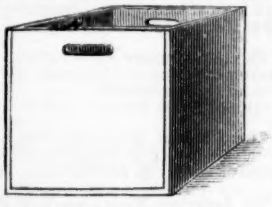
TERRY'S BUSHEL BOXES.

BOXES VS. BASKETS.

FOR a long time I have been thinking that we ought to have something more accurate than a bushel basket—more substantial, and less expensive. Baskets do not fit up tight together in a wagon; they won't bear piling one on top of the other, and they cost more than a good stout box. When I read the proof of friend Terry's potato-book I was greatly surprised to think he had been following my own notions so fully. The following is the chapter in regard to these boxes:

THE USE OF BUSHEL BOXES.

For several years I have been using bushel boxes for marketing early potatoes, while the skins slip, and for handling the crop in the field all through the season. This is one of the ways in which the potato specialist can get ahead of the small raiser. I think we handle our crop for less than half of what it used to cost us before we got these boxes made. Our boxes are 13 inches by 16, and 13 deep, all inside measures. They were made a little deeper, to allow for shrinkage. The sides and bottoms are made of ⅜ stuff, and the ends of ⅝. Hand-holes are cut in the ends as shown in the cut.



TERRY'S BUSHEL BOX.

The upper corners are bound with galvanized hoop iron to make them strong. The price paid for them was from $25 00 to $30.00 a hundred at a box-factory. The wood used is mostly whitewood. Some light wood should be used, of course, so as to make them as light as possible. They need not weigh more than six or seven pounds. Early in the season, while the skins slip, our potatoes are dug and laid (not thrown) into these boxes, and the boxes are covered as fast as filled. They are then safe from sun and rain till wanted for market. The covers are simply pieces of boards cut about 15 by 18 inches. Dug one day and taken to market the next, and set off in the boxes at the grocer's, and then set by him into his delivery wagon and taken to his customers, the consumer gets them just as nice and fresh as though he raised them himself. I recollect once leaving 30 boxes at a grocer's while I went on with the rest of my load to another place. When I came back he had delivered every bushel to his customers, who had orders in for them. They were dug in the afternoon, immediately covered, and by 11 o'clock the next day they were in the consumer's cellar, without any handling or bruising, and I will warrant they gave satisfaction. There is plenty of demand for nice things at paying prices, while ordinary goods are dull at low prices. Some buyers, I know, or shippers, do not seem to appreciate nice potatoes, carefully handled; but our best city grocers are generally on the look-out for the best, and are willing to pay for it. Of course, these boxes filled with potatoes should be carried on a spring wagon, and covered by canvas from sun and rain. The sized box spoken of is just right to set in an ordinary three-foot-wide wagon-box, as two boxes endwise just fill across the wagon-box. The box on my spring wagon is a little over 12 feet long, so 20 boxes can be set in the bottom, and two deep makes 40, our usual load for two horses. But they can be set three or four deep, if desired. The boxes hold a bushel level full, so they can be set one top of the other. Do not round them up, or you will cheat yourself. They hold a full bushel when a straight-edge drawn across the top just touches the potatoes. With plenty of these boxes, my men can dig right along while I am going to market, and I can load up any time in fifteen minutes. There is some dead weight to carry, but it pays twice over. The potatoes are in the nicest possible shape, and your customers will soon find it out, and there is no chance for quibbling about measure. There is just a bushel in a box every time, while baskets vary in size, and can easily be heaped up too much or too little, thus giving a chance for unpleasant words between buyer and seller. Later in the season, after the potatoes are ripe, and there is no longer any need of handling them so carefully, I drive through the field, and two men will empty 50 or 60 boxes into my wagon in a very few minutes, and the boxes are left ready to be filled again. When picking up we do not need to have a team and wagon in the field; they can be going to market, or at other work. When there is a good crop, a box can be filled almost without moving it; thus all unnecessary lifting and carrying are avoided. Last fall we wished to dig one six-acre piece and pile them close to one edge of the field, so we could plow the land. The boxes were scattered through the field, and, when filled, were set into the wagon and drawn to the place where we wished to pile them, and emptied out, 50 bushels in a pile. A gentleman from New London was here, and rode with me on the seat while two men handled the boxes. He was much surprised to see how short work we made of clearing off an acre. There is a great difference in the amount of labor as compared with the ordinary method of handling. Really, I do not mind the raising and handling of 24 acres of potatoes now, with every possible device that Yankee ingenuity can invent to save work, as much as I used to the raising of six acres a few years ago. When we want to put the crop into the cellar we manage the same way as when piling, except that the boxes are emptied on to a shoot in the cellar window. When a car is to be loaded right from the field, these boxes come handy also. We can get a carload dug beforehand, and have them all in the boxes and wagons, so the car can be loaded in a day. We do not have to stop to pick them up out of piles, and thus a very unpleasant as well as slow job is avoided.

At the end of the season, when the boxes are filled for the last time, they may be carried down cellar and stored away full of potatoes, or apples may be put in them. There is no nicer way of marketing winter apples than in these bushel boxes. Again, in the spring they are just the thing to have the seed around in when cutting, and to carry it to the field in. A boy can wheel the boxes out to the planter as fast as the cutters fill them. A man who worked for me before and after these boxes came around often used to say, "How did we ever get along without them, they are so handy?" In the field, if covers are scarce the boxes may be carried together and set up three or four deep, and then one cover will answer for all. These covers are almost as important as the boxes. We used to carry the boxes together into piles or heaps, and then cover them with a canvas or rubber blanket, and it was quite unhandy. When I was riding to market one day I got to studying over the matter, and it occurred to me that a simple board cover for each box was just what was wanted. Strange that so simple a thing hadn't been thought of before. I went to a mill and had 150 sawed, and took them home with me, and found them to be just the thing. In catching weather, if the potatoes are picked up as fast as dug, and covered, they are all right and ready to load into the wagon any time after it stops raining. One is as independent as possible of the weather.

You will notice that friend Terry says they cost him from $25.00 to $30.00 per 100. Well, we have discovered that, by the use of our machinery, we can make nice strong ones, made of light strong basswood, bound clear around the top and clear around the ends with galvanized iron, at the following prices: 25 cts. each; $2.25 for 10, or $20.00 per 100. Stuff in the flat, including nails and galvanized iron, $1.75 for 10, or $16.50 per 100.

The boxes are extremely handy for a great variety of purposes, aside from apples, potatoes, etc. If you want to pick up stones in the field, they are not strained or pulled out of shape as baskets are; and whatever you put into them is accurately measured. If you want a hen's-nest, I do not know how you can do much better than to take one of these potato-boxes; and if any one should ever want to hive his bees in a box hive,

here you have it of the old orthodox dimensions, and a nice entrance at both front and rear. Perhaps I might add, that, in the way we make them, some ventilation is allowed. The end boards are exactly 13 inches square. Two, exactly alike, are required for a box. Well, the sides and bottom are all made of pieces of board exactly alike—six being required to make the box, each one of these pieces being 17½ inches long and 6½ inches wide. In nailing, first nail a piece on each side, flush with the top edge of the box. Now put on the bottom, the edges being flush with the end-boards. Last of all, put on the two remaining pieces, nailing them into the bottom boards as well as into the ends. This leaves a crack at the middle of each side; and, if the boards ever shrink a little, a smaller one, in the center of the bottom.

If you want to try a potato-box, to see how handy they are to have around, just order one for a packing-box when you are getting some goods. We will send a sample, filled with goods, for only 15 cts., for it saves us the price of a box to put your goods into.

HUMBUGS AND SWINDLES

PERTAINING TO BEE CULTURE.

FRIEND ROOT:—I have got into considerable trouble from the party whose circular I inclose, as he claims I am infringing on his patent in using the oil or enamel cloth that I got from you. He claims that he has a patent on all cloth covers, every thing except boards, and warns me that I shall be prosecuted in the U. S. court. He has sold the right to use his hives in this county, for $200, to a party in Rockdale. Please instruct me what to do. I am not able to stand a suit; it would ruin me, yet I have my forty stands of bees covered with such sheets, and have sold 70 hives, all with the same sort of sheets, so I am in for it. WM. WASON.

Rockdale, Milam Co., Texas, April 18, 1885.

Friend W., tell the "Common-sense" folks to commence suit on me for using enamel sheets, if they like. I am, perhaps, the largest infringer, and have probably been using the enamel sheets more years than almost anybody else—certainly long before their patent dates. This is simply a rehash of Mitchell's absurd claims. The circular you send us is the usual one that is sent out with the Common-sense (?) hive. Some may urge that good men's names are appended to their testimonials. Very likely; but these good men have got into company most decidedly bad. No such a patent would be possible or rational. You can cover your bee-hives, or any other farm implements, with cloth, paper, or oil cloth, or any thing you choose, and there can be no patent on it. There is no danger of a suit at all. They are simply trying to blackmail you, friend Wason.

It seems that Prof. Cook does not hesitate to declare publicly where Mrs. Cotton and her hive belong. Surely she can not claim that Prof. Cook is interested in a bee-journal or a hive-manufactory. We copy the following from the *Rural New-Yorker* of Apr. 25:

Y. M. L., Panama, N. Y.—What about Mrs. Lizzie E. Cotton and her wonderful "Controllable" bee-hive? How many dollars' worth of honey will a hive of pure Italian bees make in a season, and how much is a hive of such bees worth?

ANSWERED BY PROF. A. J. COOK.

Mrs. Lizzie E. Cotton has been exposed as a fraud in the *Rural New-Yorker* and leading bee-journals for years. She says her hive and system will surely bring $20 per colony each year. Such a statement is absurd. The season may be so poor that no honey will be gathered. Even the bee-keepers of Maine, in her own State, pronounce Mrs. Cotton to be a cheat. Her hive and system would not be accepted as a gift by the first bee-keepers of the country. A good colony of Italian bees will, in average seasons, give one swarm, and gather 50 pounds of fine comb honey. Our best bee-men sell good strong colonies, in our best hives—such hives are now unpatented—for $10. Mrs. Cotton charges double this amount, and many of her patrons complain that what she sends is really worthless.

CONVENTION NOTICES.

The Mahoning Valley Bee-Keepers' Association will hold its next meeting at Newton Falls, Ohio, on Thursday, May 28, 1885. E. W. TURNER, Sec.

The bee-keepers of Western Mich. will hold their spring meeting at Fremont, Mich., May 5, 1885. All are invited to attend. F. S. COVEY, Sec.

Coopersville, Mich., April 14, 1885.

The Central Michigan Bee-Keepers' Association holds its spring convention at Lansing, in the State Capitol Building, on Tuesday, May 12, 1885, at 9 A. M.

E. N. WOOD, Sec.

No. Lansing, Mich., April 20, 1885.

The next meeting of the Central California Bee-Keepers' Association will take place in the park at Hanford, Tulare Co., in picnic style, at 10 A. M., on the first Wednesday in June. All family folks will bring their baskets; and bee-men generally are invited. GEO. HOBLER, Sec.

Hanford, Tulare Co., Cal., April 11, 1885.

The Northern Ohio Bee-Keepers' Association will hold their annual meeting in the Council Chamber, at Norwalk, Ohio, Saturday, May 9.

Several subjects of immediate practical value will be discussed. Officers will we elected for the ensuing year.

No one engaged in the production of honey can afford to be absent. H. R. BOARDMAN, Sec.

East Townsend, Ohio, April 15, 1885.

PENNSYLVANIA KEYSTONE BEE-KEEPERS' ASSOCIATION.

The next annual meeting of the above association is to be held in the court-house, in the city of Scranton, Pa., at 10 o'clock A. M., and at 1:30 P. M. on the second Tuesday of May, the 12th, 1885.

At the morning session the annual election of officers will take place. While the association is but just commencing its third year, we feel to congratulate ourselves in having a working membership of fifty and upward; yet there remains much to be accomplished, and we trust that all who keep bees, whether for pleasure or profit, will make it their duty to attend this meeting, and bring their friends. Business of great value will be brought before the meeting. The question-drawer will be opened, and questions answered. Let everybody send a question. All are most cordially invited.

ARTHUR A. DAVIS, Sec.

Clark's Green, Pa., April 17, 1885.

CIRCULARS RECEIVED.

M. C. Kerns, Pomeroy, O., sends an 8-page circular of hives, section boxes, etc.

H. A. Goodrich, Massie, Texas, sends an 8-page circular of supplies generally.

O. H. Townsend, Alamo, Mich., sends us a one-page circular of bees and queens.

D. S. Hall, South Cabot, Vt., sends a small 8-page circular; specialties, hives and fixtures.

J. C. Mishler, Ligonier, Ind., sends us a one-page circular; specialty, bees, nuclei, and queens.

F. D. Wellcome, Poland, Me., sends us an 18-page circular, large pages; bee-supplies generally, and small fruits.

Geo. T. Hammond, West Sweden, N. Y., sends a 2-page circular; hives, sections, etc.; specialty, paper boxes for retailing honey.

W. B. Coggeshall, Summit, N. J., sends a 6-page circular; specialties, bees by the pound, and nucleus colonies. Printed at this office.

S. P. Hodgson, Horning's Mills, Ont., Canada, sends a 20-page circular of hives and supplies generally; specialty, tinware for the apiary.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,

EDITOR AND PUBLISHER.

MEDINA, O.

TERMS: $1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, MAY 1, 1885.

Finally, my brethren, be strong in the Lord, and in the power of his might.—EPH. 6:10.

NOTICE the decline in fdn., in another column.

ALSIKE CLOVER.

As we have still in stock a large amount of fine seed, we will, for the rest of the season, fill orders at $9.00 a bushel; $4.75 per half bushel, or $2.50 a peck.

IMPORTED QUEENS.

OUR apiarist reports 84 fine imported queens in our hives, wintered over. We don't think any of the brethren will be troubled by delays on imported queens this season.

MAILING QUEENS WITHOUT FOOD.

MISS NELLIE ADAMS, of Sorrento, Fla., mailed us a queen Apr. 20, and forgot to put any candy in the cage. It reached our office on the 23d; bees all dead, but the queen was alive, and when supplied with honey she seemed all right. Now, we would not advise mailing queens without any food; still, it is interesting to know how long they may survive. The weather has been warm and damp, which perhaps favored them somewhat.

INDICATING THE PART OF THE STATE IN WHICH YOU LIVE.

WITH the permission of the *A. B. J.* we will copy the excellent plan they have adopted for letting each subscriber tell what portion of the State he lives in. It is virtually the plan adopted by the Postal Guide. It will be understood with the following explanation; thus, ♂ indicates that the friend who uses it resides in the north-east portion of the State; ♀ indicates a southern portion, etc.

CONVERTING A HALF-STORY SIMPLICITY INTO A HONEY-CRATE.

WILL ELLIS, St. Davids, Ontario, near Niagara Falls, sends us a Simplicity half-story, arranged for holding sections on the Heddon or Moore plan, which still admits of using separators. It is essentially the same as the plan mentioned on page 314. It is quite ingeniously arranged, and fills the bill nicely, only it leaves those spaces for imprisoning bees. Trifling as it may seem, I should say that this of itself would be a fatal objection.

WIRE NETTING FOR POULTRY FENCES.

SINCE our last, an enormous trade has sprung up in wire netting for poultry inclosures. The factory in New York became unable to fill our orders, then we induced a factory in Cleveland to take it up, until they got behind badly, then we struck a factory in Chicago, that bids fair to keep us going. A quantity sufficient to prevent any further delay has just been unloaded from the train. When we advertised to furnish it, we thought we had enough on hand to accommodate all the brethren; but, of course, we did not know there were so many who wanted just exactly the same thing. We shall keep in stock only the four-foot width, and in our own yards this seems to be high enough for almost any purpose (especially if a board one foot wide is put along the bottom) but we can furnish to order any width from two to six feet. If you want us to cut rolls, the price will be ½ c. a foot extra. On two or more rolls, we can now give 5 per cent discount; on ten or more rolls, a discount of 10 per cent. As the above prices are very close indeed, they can be given only when cash comes with order. This wire netting can be used in a hundred different ways, for protecting any thing. As it is galvanized wire, the weather has no effect on it whatever.

THE PRAIRIE FARMER AND THE AMERICAN AGRICULTURIST.

IT is amazing to look on and see how two good respectable journals—journals full of years of usefulness — can be so led astray by Satan as to come out in public and quarrel—yes, quarrel worse than a couple of juveniles might be expected to quarrel over some of their playthings. For the sake of decency, if nothing more, dear friends, do stop right where you are, and drop the whole matter. Fill your pages with something of value to your readers, as you have been wont to do. And do not any more, for the sake of the example you set, and for Christ's sake, put another word in print—no, not even in a circular, in regard to these personal differences. Perhaps the feeble voice of GLEANINGS may not count for much, but it may be worth something by way of suggestion. There is a little scrap from good old doctor Watts, that I have thought many times would apply to newspaper editors as well as to quarrelsome children. It seems to me it used to run something like this:

Let dogs delight to bark and bite,
For 'tis their nature to;
Let bears and lions growl and fight,
For God hath made them so.
But, children, you should never let
Your angry passions rise;
Your little hands were never made
To tear each other's eyes.

If anybody else can fix the above better, let him do it.

FERTILIZING QUEENS WHILE IN THE CELL, BY MEANS OF DRONE-LARVÆ.

AT New Orleans this subject was brought up, and some facts were brought forward derogatory to the character of those who claim to have succeeded by this process. Some of the friends may remember the originator of the process was a Mr. B. F. Lee, of South Oxford, N. Y., as given on page 296, 1884. We have written to the postmaster of South Oxford, but, to our great surprise and astonishment, he says he knows no such individual as B. F. Lee. Two of our subscribers at the above postoffice reply in the same way. Now, unless Mr. B. F. Lee can come forward and explain matters, it seems to me he bids fair to prove an excellent candidate for the Humbug and Swindle department. I regret now that I did not ascertain more in regard to his standing, before I published his letter. The whole thing seems to be the old story of fetiliz-

ing queens in confinement, over again. In justice to Mr. John M. Price, of Tampa, Fla., who has given us the results of several of his experiments in this matter, I would say that we have known him for years, and know him to be a gentleman. Furthermore, his postmaster replies promptly that he is a gentleman of good standing and reliability. I feel sure that friend Price has been honest in the matter, but I fear he has been mistaken in some of the conclusions he has drawn from the results of his experiments. Now, then, can any one tell us about Mr. B. F. Lee? and can any explanation be given as to why any man should fabricate a letter having such a semblance to the truth as the one mentioned above?

A B C BOOK OF POTATO CULTURE.

THE above little book, published by us and compiled by T. B. Terry, of Hudson, O., is now finished. Price 35 cts.; 3 cts. extra if sent by mail. Mr. Terry is well known throughout the State of Ohio by his talks at our farmers' institutes. He is also pretty well known throughout the United States as one of the foremost writers on agriculture, being a regular correspondent of the *Ohio Farmer* and *Country Gentleman*. Mr. Terry is not only a successful farmer, but he has done more, perhaps, than any other one man in the State of Ohio to raise farming from drudgery to a pleasant pastime. While the little book was written principally for the purpose of telling farmers how to raise a better crop of potatoes, it also touches largely on the great labor question of the day. It tells, in a plain, practical manner, how far brain-work may be made to take the part of hard muscular labor in all farming operations. It discusses intelligently, too, the matter of using modern machinery on the farm. Mr. Terry is a plain, practical man; and while he recommends the use of such machinery for agricultural purposes as has been, by long use, fully approved, he objects, in most emphatic terms, to investing money in new-fangled fertilizers in place of making use of the means to be found on every farm, for producing home-made manures; and he also objects to buying potatoes, or other kinds of seeds, at fabulous prices, when the probabilities are that we have already just as good in every-day use, if we make them do their best.

The book not only makes potato-growing a science, but it reduces it to a system, to be followed through half a dozen years. And, best of all, Mr. Terry works out his system and his theory, and makes it pay, too, as all his neighbors will tell you; and, in fact, you can catch him at it almost any day in the year; for by his method, farmers have no idle days, winter or summer, rain or shine. Neither is Mr. Terry a man who believes in no amusement; for after you have had his little book in your house, your boys may be more anxious to go into Terry's method of farming than they are to patronize skating-rinks.

The book ought to interest every one interested in the great problem of something to do, even if he be not a farmer. My friend, if, after you have read Mr. Terry's little book on potatoes, you decide it is not worth the 35 cents we ask for it, if you will slip it back in its envelope, and return it to us unsoiled, we will return you your money, paying all expenses, and no unpleasant feelings either.

WE have to-day, Apr. 30, 6462 subscribers — a gain of 228 over last month.

KIND WORDS FROM OUR CUSTOMERS.

GLEANINGS AS AN ADVERTISING MEDIUM.

Please add that I have sold all the bees I have to spare by advertising in GLEANINGS, as I have become tired of answering letters. J. B. MURRAY.
Ada, Ohio, April 1, 1885.

[The advertisement friend M. refers to was given only one insertion on page 218.]

THE A B C OF POTATO CULTURE.

[The following comes from the Ohio Agricultural Experiment Station, and we value it all the more because it gives our book a little criticism as well as kind commendation. Perhaps our people of the Ohio State University are as well prepared to judge of the merits of such a work as anybody anywhere.]

A. I. Root:—I have looked the A B C of Potato Culture through quite carefully, and am much pleased with it. It will pay any one who cultivates the soil, to read the book, whether he grows potatoes or not, for there are many things in it to set one to thinking; but to potato-growers it is invaluable. Mr. Terry's success gives force and weight to his opinions, even on matters where there is a chance for controversy. One feels more like trying the methods advised, because of the enthusiasm the book inspires, than controverting the opinions expressed. The facts stated are just about as near the truth as it is possible to get at present. If there is any criticism to be offered, it is in the style of the book, which is spicy, but not quite systematic and concise enough. In other words, the matter is better suited to the newspaper style than to the book form; but the truth is there all the same.

Very respectfully, W. J. GREEN.
Columbus, Ohio, April 24, 1885.

Imported TUNISIAN Queens at the same prices as imported Cyprians and Syrians. See back numbers. Tunisian queens are bronze color; bees are darker than common bees, and far better honey-gatherers.
9d **FRANK BENTON,** MUNICH, GERMANY.

ITALIAN BEES AND QUEENS.
Full Colonies and Nuclei. By the pound, after June 1; Southern-bred queens after May 15.
9 **E. A. GASTMAN, Decatur, Ill.**

THE SUCCESS
FOUNDATION ✣ FASTENER.
"Takes the cake; the fastening is a complete job, as I never saw it before. *Chas. F. Muth, Cin., O.*"
Correspondence with supply dealers solicited.
Circulars free. **GIWITS & SON,**
9-11-13-15-17d **West Jersey, Illinois.**

FOR SALE. Black bees, per lb., $1.00. Black queens, each, 30c. Hybrid queens, each, 50c. Pure Italian queens from imported mothers (Root's Imp.) $1.00. Tested, $2.00. Address all orders to T. J. PENICK, WILLSTON, FAY. CO., TENN.

SILKWORM EGGS. 20 cts. per M. till May 15. Order now. 2c. stamps. Ethel A. Dyke, Pomeroy, O.

New Maple Sugar.
A limited supply, and some of it very nice. Prices, 8, 9, 10, and 11 c per lb., according to quality. One cent less, if ordered in lots of 100 lbs. or more.
A. I. ROOT, Medina, O.

Foundation-Mills Lower.
Until further notice, prices will be as follows: 4-inch mill, $10.00; 6 inch mill, $13.50; 10-in. mill, $20.00; 12-inch mill, $30.00; 14-inch mill, $40.00.
A. I. ROOT, Medina, O.

GOLDEN ITALIAN QUEENS.
Bees beautiful, gentle, and great honey-gatherers. Queens large and prolific; untested queens after May, $1.00; tested, $2.00. Extra tested to breed from, $3.50. Send for circular to 9-10-11-12d
DARROW & ROSS, LEBANON, ST. CLAIR CO., ILL.

EXCHANGE DEPARTMENT.

Notices will be inserted under this head at one-half our usual rates. All ad's intended for this department must not exceed 5 lines, and you must SAY you want your ad. in this department, or we will not be responsible for any error.

WANTED.—To exchange a single-bbl. breech-loading shot-gun, 12 guage, worth $15, for the same value of brood fdn. Address
9d CHAS. H. SMITH, Pittsfield, Berkshire Co., Mass.

WANTED.—To exchange, Brown Leghorn eggs for Italian bees and queens. Send for circular. R. J. NASH, Williamson, Wayne Co., N. Y. 9d

WANTED.—To exchange a good Novelty Printing-Press, foot-power, chase 6½×10½, cabinet, type, cases, 17 fonts of type, brass and wood rule, border, dashes, spaces and quads, leaders, furniture, ink, etc., for bees.
9d J. ARTHUR STAGG, Greensburg, Ind.

WANTED.—To exchange. I have 20 new Simplicity hives, that I wish to exchange for bees by the pound.
9d CYRUS MCQUEEN, Baltic, Tuscarawas Co., Ohio.

WANTED.—Ten nuclei of Italian bees, for which I will exchange eggs for hatching, from prize-winning Light Brahmas, P. Rocks, Polish, and Rouen Duck; 50 prizes awarded my birds at Cincinnati show past winter.
9d CHAS. MCCLAVE, New London, Huron Co., Ohio.

WANTED.—To exchange. I have an 8-inch "Simonds" saw, with mandrel and boxes; has never been used; also Italian bees in L-frames, which I want to exchange for a camera or for a Lamb knitting-machine.
9d L. HEINE, Bellmore, Queens Co., N. Y.

WANTED.—To exchange. I have a *good* hand circular-saw machine, centrifugal power, worth $25.00; cost $50.00 when new, that I will exchange for queens, comb fdn., or offers. Send for description.
9 D. S. HALL, So. Cabot, Washington Co., Vt.

WANTED.—To exchange. Friends, if you want to trade bees and queens for hives made up or in the flat, send for my price list. I will take some black bees and young queens by the pound, or in hives. J. R. LINDLEY, Georgetown, Ill. 9d

WANTED—To exchange.—Will send one sitting of eggs of superior Plymouth Rock chickens for a pure Italian queen in May. Experience in shipping, safe arrival guaranteed.
9d J. D. ADAMS, Nira, Wash. Co., Iowa.

WANTED.—To exchange Brown Leghorn eggs (from stock of W. E. Bonney), for Italian queens or bees. W. H. OSBORNE, Chardon, O.

WANTED.—To exchange 4-piece dovetailed sections for *bees* or Italian queens.
W. S. WRIGHT, Battle Creek, Mich.

WANTED.—From 300 to 500 lbs. extracted honey in exchange for Pure Italian Queens. Will allow 8 cents for white honey, and 6 cts. for clover and honey-dew mixed. Queens at $1.00 in June and July. Satisfaction guaranteed. L. L. TRIEM,
9-11d La Porte City, Black Hawk Co., Iowa.

60 Colonies of Bees For Sale.

For particulars, call upon or address
A. L. EDWARDS, Skaneateles, N. Y.

I HAVE THEM. Pure Italian Queens, raised from the choicest stock, ready to mail now. Untested queens, $1.00. Tested queens, 2.00. Send me your order, and send for my circular of queens and bees. J. P. CONNELL.
9 20db Hillsboro, Hill Co., Texas.

POULTRY and BEES. "Todd" strain Light Brahmas. Eggs, $2 per 13; $3 per 26. Also 20 colonies of Italian bees for sale in Simplicity hives. F. S. MCCLELLAND,
9d New Brighton, Pa.

110 Colonies of Bees for Sale!

IN THE 8-FRAME LANGSTROTH HIVE.

Hives are nearly new, and well-painted. Combs are ½ foundation; they are strong in bees. Pure Italians, $5.00; Hybrids, $4.50. Italians are bees from A. I. Root's best imported stock. Queens all one and two years old this season. My health has failed, and I am compelled to sell. I guarantee safe arrival. Send money in registered letter or postoffice order. **J. R. REED,**
9-10d **MILFORD, JEFFERSON CO., WIS.**

50 STANDS OF ITALIAN

AND GOOD HYBRID BEES FOR SALE.

For one, $6.00; for 5 or more, $5.75 per stand, if ordered in May. Bees are in good 10-frame Langstroth hives, containing straight combs built on foundation, and are heavy with honey.
Address **W. C. PERKINS,**
9d **Jefferson, Greene Co., Iowa.**

1885. 1885.

PLEASANT VALLEY APIARY.

PURE BRED

ITALIAN AND ALBINO QUEENS.

Untested, after June 1st	$1 00
" " " " per ½ dozen	5 00
Tested progeny, three-banded	2 00
" Selected, young, large and light-colored	3 00
Full colonies in Langstroth or Simplicity hives	8 00
Nuclei (no queens), 2-frame, $2.25; 3-frame	3 00
Celebrated poplar sections, per M. (*sample mailed free*)	5 50

All orders filled promptly, and safe arrival and satisfaction guaranteed. Full colonies have tested queens; nucleus colonies (add the price of queen). The above strains are bred in separate apiaries, home containing over 70 full colonies, all pure Italians. My strains have stood the *test of hardiness;* have always wintered on summer stands, and have not lost a colony in the past 4 winters. Sample of my large, handsome, light-colored workers sent for 10 cents. Address 9d

E. L. WESTCOTT, Fair Haven, Rutland Co., Vt.

THE CANADIAN BEE JOURNAL.

WEEKLY, $1.00 PER YEAR.

D. A. JONES & CO., PUBLISHERS.

BEETON, ONTARIO, CANADA.

The only bee journal printed in Canada, and containing much valuable and interesting matter each week from the pens of leading Canadian and United States bee-keepers. Sample copy sent free on receipt of address. Printed on nice toned paper, and in a nice shape for binding, making in one year a volume of 832 pages. 9tfb

FOUNDATION MOLDS, L. SIZE, $3.75.

Italian bees, 50c to 90c per lb. Queens, 30c to $2.50. Fdn., 48c to 55c. Wax taken at 28c. See circular.
8tfdb OLIVER FOSTER, MT. VERNON, LINN CO., IOWA.

W. Z. HUTCHINSON,

ROGERSVILLE, GENESEE CO., MICH.,

Can furnish just as neat, white, smooth, and perfect dovetailed white-poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians, in Heddon hives, for sale at $8.00 per colony. Untested Italian queens (from the South), $1.50 each. Tested queens, reared last year in the home apiary, $3.00 each. Beeswax wanted. Make money orders payable at Flint. 9tfdb

HEADQUARTERS IN THE SOUTH

FOR THE MANUFACTURE AND SALE OF

BEE-KEEPERS' SUPPLIES

The Only Steam Factory Erected in the South, Exclusively for the Manufacture of Hives, Frames, Sections, Etc.

Viallon, and Root Simplicity Hives, Comb Foundation, Extractors, Smokers, etc. Italian Queens and early four-frame nuclei a specialty. Full colonies in any quantity. For more particulars, and prices, send for my Descriptive Illustrated Catalogue. Also see ad. in February 1 number.
Cash market price for wax. 5tfd

P. L. VIALLON,
Bayou Goula, Iberville Parish, La.

BEE-HIVES,

ONE-PIECE SECTIONS,
COMB FOUNDATION,
—AND—
Bee - Keepers' Supplies Generally.

Price List Sent Free.

1-11 1mo **J. J. HURLBERT,**
Lyndon, Whiteside Co., Ill.

NOW READY! NOW READY!!

500 U. S. STANDARD HONEY-EXTRACTORS,
1000 TOLEDO SMOKERS,

Both of which took the first premium at Ohio, Indiana and Michigan Tri-State Fair in Sept., 1884. We also manufacture and deal in a full line of Apiarian Supplies. Send address for circular. 3-9d

E. T. LEWIS & CO., Toledo, Lucas Co., O.

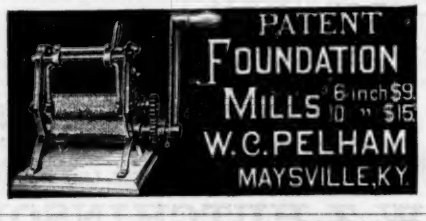
1885 **Colonies, Nuclei, and Queens,** 1885
FOR SALE.
For terms, address 4-5-7-9d
S. D. McLEAN, COLUMBIA, MAURY CO., TENNESSEE.

One-Piece SECTIONS, Dovetailed;

HIVES OF DIFFERENT VARIETIES;
FRAMES, SHIPPING-CRATES, WIRE NAILS, ETC.

Send for circular and price list before purchasing.

MILLER BRO'S & CO.,
5-7-9d **Dryden, Mich.**



ONE-PIECE SECTIONS A SPECIALTY.

We make five styles and all sizes, and keep other supplies. Sample hundred, 50 cts. Sample and circular free. Orders filled promptly.
7tfd B. WALKER & CO., CAPAC, ST. CLAIR CO., MICH.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column. 3btfd

IMPORTED QUEENS.

In April,	11 francs in gold.
May and June,	10 " " "
July and August,	9 " " "
September and October,	7 " " "

No order received for less than 8 queens. Queens which die in transit will be replaced only if sent back in a letter. CHARLES BIANCONCINI & CO.,
3-13d Bologna, Italy.

BEE-KEEPERS' SUPPLIES

MANUFACTURERS OF

ONE-PIECE SECTIONS,

Made from Basswood.

HIVES OF ALL KINDS,

FOUNDATION, SMOKERS, ETC.

Send for Price List to 23tfd

Smith & Goodell, Successors to **Derr & Harris,**
ROCK FALLS, WHITESIDE CO., ILL.

Bee-Keepers' Supplies

Send us Your Name and Address on a Postal Before You Purchase

HIVES. SECTIONS,
COMB FOUNDATION, SMOKERS, &C.
REYNOLDS BROS.
Williamsburg, - Wayne Co., - Indiana.
7-9-11-13d

PURE ITALIANS.	May	June 1st to 18	June 22 to Oct. 1
Tested queens	$2.50	$2.25	$1.75
Untested queens		1.25	1.00
Bees per pound	2.00	1.50	1.00
Nuclei per comb of 4000 bees and brood	1.75	1.25	.90

Silverhull buckwheat, $1.20 per bushel. Instructive circular free.
6-7tfd **S. C. PERRY,** PORTLAND, IONIA CO., MICH.

REVERSIBLE-FRAME **HIVES,** AND **REVERSIBLE Frames,**

that will fit any Langstroth hive. Sample by mail, 15c. One set, 8 frames, by mail, 80c. By express, 40c; $4 per hundred. Also white poplar and basswood sections. Send for circular.
7-9-11d **O. J. HETHERINGTON & CO.,** East Saginaw, Mich.

1885 **ITALIAN QUEENS.** 1885

6 WARRANTED QUEENS FOR $5.00.

Write for Circular. **J. T. WILSON.**
1tfd NICHOLASVILLE, KY.

FLAT-BOTTOM COMB FOUNDATION.

High side-walls, 4 to 14 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS.
4tfd *Sole Manufacturers,*
SPROUT BROOK, MONT. CO., N. Y.

Bee-Hives and Supplies.

We have remodeled our machinery, and can fill orders on short notice. If wanted, odd sizes made. Send orders now before the rush comes. We have a large stock on hand now. We give 3 per cent discount till Feb. 1. Price list free.

B. J. MILLER & CO.,
2-12d **Nappanee, Elkhart Co., Ind.**

BeeswaX

CRUDE OR REFINED, ALWAYS ON HAND, AND ORDERS PROMPTLY ATTENDED TO.

RICHARD MERKLE,

Wax Bleacher & Refiner. No. 700 North 2d Street,

ST. LOUIS, MO. 23-9d 1mo

SAFE INTRODUCTION OF QUEENS GUARANTEED

By using Dyke's Safe Introducing and Shipping Cage. This cage was well tested last year all over the U. S. and Canada, and only one report of failure was received of all the queens sent out.

Prices (safe arrival and introduction guaranteed.)

	In May.	In June.	After June.
Untested Italian Queen	$1 65	$1 38	$1 10
Tested " "	3 30	2 75	2 20
Warranted " "	2 20	1 93	1 65

Or we will send queens in the safe cage with full directions, safe arrival only guaranteed for prices as per Root's queen price list. Best Imported Stock. NO FOUL BROOD IN THIS SECTION. We refer to 1st City Bank of Pomeroy. Catalogue giving full particulars and prices, free. Send for it.

7-17-d S. A. DYKE & CO., POMEROY, MEIGS CO., OHIO.

TAR-HEEL APIARIES.

1885 No. Ca. Queens. Carniolans. Italians. ABBOT L. SWINSON, Proprietor, Goldsboro, Wayne Co., N. C. No. Ca. Queens. Cyprians. Syrians. 1885

PRICE OF LAYING ITALIANS	May	June	July to Oct.
Untested queens, each	$1 00	$1 00	$1 00
" " ½ doz	6 00	5 00	5 00
Best tested queens, each	3 00	2 50	2 00
" " " ½ doz	15 00	12 00	11 00

The other races, one-fourth more. For nuclei, add 75 cts. for each L. frame of bees and brood to price of queen. Pure wax foundation, 50 cts. per lb.; 50 lbs. and over, 48 cts. 7-9-11d

SIX SYRIAN QUEENS, warranted purely mated, for $6. Single queen, $1.25. Tested, $3 each. Italians, same price. Four frame nuclei, L. frame, with tested queen, $5 each.

6-7-8-9dtfb I. R. GOOD, Sparta, Tenn.

DIXON & DILLON,

Parrish, Franklin Co., Illinois.

Manufacturers of and Dealers in all kinds of

APIARIAN SUPPLIES,

at the lowest prices. Also pure **ITALIAN BEES and QUEENS.** No other bees kept in our yards. For further information, send for price list. 6-13db

I WILL SELL

Chaff hives all complete, with lower frames, for $2.50; in flat, $1.50; 2-story Simplicity, complete, $1.25; in flat, 90c.

Comb Foundation, made from pure refined wax, 45c per lb. for heavy; 55 for light. Other supplies. Send for price list. A. F. STAUFFER,

7-12db Sterling, Whiteside Co., Ill.

The North-Shade Apiary

Holds the field this spring. Our bees have wintered well **on fall honey and honey-dew** (bees are Italians). Full colonies in either the L. or the Gallup hives, for May delivery. Nuclei, Queens, and bees by the pound, for the season. *Price List Free.*

8-9tfd O. H. TOWNSEND, ALAMO, KAL. CO., MICH.

Oldest Bee Paper in America—Established in 1861.

AMERICAN BEE JOURNAL,

WEEKLY, at **$2.00** a year.

MONTHLY EDITION, 16 pages, 50c. a year.

925 West Madison Street, **Chicago, Ill.**

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Ezra Baer, Dixon, Lee Co., Ill.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; Clark Johnson & Son, Covington, Ky., King, Aspinwall & Co., 16 Thomas St., New York City, C. A. Graves, Birmingham, O., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,

3btfd **Hamilton, Hancock Co., Illinois.**

Manufactures a

FIRST-CLASS ARTICLE FOR 15 AND 22c PER LB.

WRITE FOR PARTICULARS. 8-9-11d

Basswood-Trees.

Basswood-trees 1 to 3 feet high, - - $1.50 per 100
Hard-maple trees, 3 to 5 feet high, - - 1.50 per 100
Mountain-ash, ornamental, 3 to 5 feet, 10 cts. apiece.

Address HENRY WORTH,

1tfd Borodino, Onondaga Co., N. Y.

COMBS IN LANGSTROTH FRAMES

FOR SALE—ABOUT 300.

Rather better than common. Address

8tfdb *M. E. NUNN, Peru, Huron Co., Ohio.*

A PERFECTLY NEW

FDN. PELHAM FDN. MILL MILL.

LATEST MODEL.

Never taken out of the box, put on board the train for $14.00 cash. Address 8-9d

GEO. W. WILLIAMS Economy, Ind.

OLD TYPE FOR SALE.

We have still on hand 76 lbs. of our old nonpareil type for sale. For a sample of it, see any number of GLEANINGS previous to May 15, 1884. Also 17 lbs. of Italic, if desired. As it is all packed, we can not divide either lot. The Roman includes 5 lbs. and over of "logotypes;" that is, the words *the, and, that, ing, tion*, etc., are made all on one body, thus facilitating composition. We offer the lot at 20 cts. per lb. A. I. ROOT, Medina, Ohio.

1879. ITALIAN QUEENS. 1885.

For Italian queens in their purity, and that can not be excelled; Comb Foundation and supplies generally, send for circular. Untested queens, $1.00 per dozen. T. S. HALL,

7tfdb Kirby's Creek, Jackson Co., Ala.

STANLEY'S
AUTOMATIC HONEY-EXTRACTOR

Is warranted to do twice the amount of work of any honey-extractor, taking same number of combs, or selling for same price.

No handling of combs to reverse, as they reverse by the crank motion.

No other machine will wear half so long as the "Automatic."

No breaking or injuring of combs, as both sides are strongly protected.

No person will buy any other after seeing the Automatic.

No other extractor dare meet us in open competition before an intelligent bee-keeping public.

No delay in answering correspondence, or in shipping goods.

We keep in stock 2, 3, and 4 frame machines, L. size, and can make any other size to order on very short notice.

2-frame machine, L. size $12.00
3 " " " 16.00
4 " " " 21.00

In writing, always state exact size, outside measure of frame, and also how many frames you want the machine to carry.

We keep in stock the Stanley Dollar Smoker, and can furnish them with extractor, so there will be no charge for transportation. If wanted by mail, $1.25.

Address all correspondence and orders to

G. W. STANLEY & BRO.,
Wyoming, N. Y.

P. S.—We guarantee satisfaction in every case, or money refunded on return of the goods. G. W. S. 9d

Cheap! SECTIONS. Cheap! FOUNDATION.

ALL IN ONE PIECE.

Per 1000.....$4 50
" 5000..... 21 00

Price List Free.

PER POUND.

For Brood comb.....45c
" Sections 53c

M. H. HUNT,
BELL BRANCH, MICH.
9tfdb

1885 HILL-SIDE APIARY. 1885
ITALIAN & SYRIAN BEES AND QUEENS.

BEES BY THE POUND, NUCLEUS, OR FULL COLONIES.

Send for Circular to W. B. COGGESHALL, Supt.
Hill-Side Apiary, SUMMIT, UNION CO., N. J. 9d

1885 ITALIAN QUEENS 1885

Untested Queens in March and April..... $1 25
Afterward..... 1 00

J. S. TADLOCK,
5tfdb LULING, CALDWELL CO., TEXAS.

BUCK & SWALLOW,

Manufacturers of and Dealers in

APIARIAN SUPPLIES,

And Breeders of Italian Queens.

Send for Price List. 9d

2816 Missouri Ave., St. Louis, Missouri.

Warranted Italian Queens,

bred with care, from finest imported stock, only $1.00. Address for price list.
9 S. F. REED, No. Dorchester, N. H.

DADANT'S FOUNDATION FACTORY, Wholesale and retail. See advertisement in another column. 3btfd

RAPE SEED, 15c PER LB.: 10 LBS., $1.00. **Spider-Plant Seed,** $2.00 per lb. **Simpson Plants,** $5.00 per thousand. Must inclose 18c per lb. for postage. ANDREW GURNEY,
7-10db College Hill, Poughkeepsie, N. Y.

QUEENS!

ITALIAN, HOLY-LAND, or ALBINO, as soon as they can be raised; untested, $1.00; tested, $2.00. Good hybrids, 50 cents. Bees by the pound, in July.
9-11d **PELHAM & WILLIAMS, Maysville, Ky.**

FOR SALE, *100 COLONIES OF* DARK LEATHER-COLORED *or Light Italian Bees and Queens.*

Warranted queens, after June 15, $1.00; six for $5.00. Tested, June, $2.25; after July 1, $2.00. Manufacturer of Comb Foundation. Samples free. Cash for beeswax. **E. PETERMAN,**
9-15d **Waldo, Sheboygan Co., Wis.**

MICHIGAN POULTRY FARM.

W. R. & I. S. PHILLIPS, Proprietors,
BATTLE CREEK, MICH.

Breeders of only pure stock, White and Brown Leghorns, Black Cochins, Langshans, Wyandottes, and Silver-Bearded Polish. Prices clear below other breeders for the same quality. Eggs from $1.50 to $3.00 per 15. Stock for sale in season. For large orders, write for special discount. No circulars.

Bee-Hives AND Sections!

NEW SHOP AND NEW MACHINERY.

The Largest Manufactory of Bee-Hives, Sections, etc., in the World.

Our Capacity now is a Carload of Goods Daily.

NOTICE.

By enlarging our factory last year we were put behind with our work so that by spring we were obliged to return many orders. *Now* we have ample stock ahead, and can fill orders promptly.

Write for our new price list for 1885.

G. B. LEWIS & CO.,
19tfdb WATERTOWN, WISCONSIN.

Established 1855.

HEADQUARTERS BEESWAX

We have constantly on hand a large stock of Domestic, Imported, and Refined **Beeswax** in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. Write to us for prices, stating quantity wanted. Address

R. ECKERMANN & WILL.
Beeswax Bleachers & Refiners. SYRACUSE, N. Y.

N. B.—We have low freight rates to all points on quantities. 24-11db

350 COLONIES
Italian Bees For Sale.

FULL COLONIES, NUCLEI, TESTED AND DOLLAR QUEENS.

CIRCULAR ON APPLICATION.

J. H. & W. ROBERTSON,
8tfdb *Pewamo, Ionia Co., Mich.*

Simply Send me Your Name

and address, plainly written on a postal card, and I will send in return my circular and price list of Italian and Holy-Land Bees and Queens, free.
7-10db J. C. MISHLER, LIGONIER, NOBLE CO., IND.

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KIND WORDS FROM OUR CUSTOMERS.

OUR SECTIONS OF 1885.

If your section boxes are not the best in the world, they certainly are the best I ever saw. They go together better, and I can keep them square, when they are together—a thing very much to be desired. A. W. CHENEY.

Kanawha Falls, W. Va., May 11, 1885.

LOWER FREIGHTS.

The goods you sent me arrived here the sixth inst. all right. I am much pleased with them, and the freight (85c.) was very moderate, so I can afford to order goods of you again when needed. Bees all alive. JOS. C. HAINES.

Mickleton, N. J., Mar. 9, 1885.

MAMMOTH CAVE.

Your description of your visit to the Mammoth Cave is the best thing you have ever written. It is worth more than the price of GLEANINGS for the whole year. The children all read it, and are anxious for the next number to come, to get the rest of it. MAHALA B. CHADDOCK.

Vermont, Ill., April 19, 1885.

GLEANINGS AS AN ADVERTISING MEDIUM.

Please drop my ad't, as I have all the orders I want at present. OLIVER FOSTER.

Mt. Vernon, Iowa, May 11, 1885.

Please do not let my ad. appear again. I have refused hundreds of orders, and still the letters come, five to ten a day. G. W. GATES.

Bartlett, Tenn., Apr. 22, 1885.

If you receive this in time to not let my advertisement appear in May number, please do so; if *not*, all right. I will pay for the one insertion in May. The demand for bees this season is too great for the bees. DAN WHITE.

New London, Ohio, April 27, 1885.

THE FIVE-CENT GLASS-CUTTER FOR CUTTING PAPER.

The goods ordered from you came all O. K. The glass-cutter works as well for cutting patterns from paper as a pair of shears, when laid on a hard board or glass. J. M. PETERS.

Bleecker, N. Y., Apr. 13, 1885.

[Thanks, friend P. Our painter has just made use of one of these glass-cutters for cutting out his stencils, and finds them away ahead of a knife.]

SOME KIND WORDS IN REGARD TO OUR MANNER OF SHIPPING QUEENS.

The imported queen which you mailed the 27th of April was received last night, introduced to a full colony this forenoon at 9 o'clock, and this afternoon at 6 o'clock she is doing a fair job of laying. I am very much gratified by the excellent order in which she was received. The bees all looked as if they had been caged only a few hours.

The first imported queen which you sent me several years ago has never had her equal in my yard, both as to the working qualities of her bees, and also their docility and markings.

Kansas City, May 1, 1885. E. M. HAYHURST.

KIND WORDS IN REGARD TO GLEANINGS.

A great number of kind words have come in regard to the way GLEANINGS is managed, especially in regard to its talks on religion as well as bees. It would be altogether out of the question to think of giving place to these, and, in fact, I have thought best to omit one article from friend Hutchinson himself, as I think the space may be better occupied. I have thought best, however, to give place to the following:

My Dear Friend Root:—I have just read the article from friend H. on page 309, and am greatly surprised at the way he comments on the way GLEANINGS is edited—he is generally so *level*-headed. He says, "I have heard many others express similar views." Locality may have something to do with it—he certainly could not say that of this locality. I prize the Home Papers very highly, as do many of my neighbors, to whom I lend the paper. The piece in Mar. 15, on borrowing, etc., was read in our Good-Templar Lodge to an interested audience lately. Friend Root, you are doing a good work, and let nothing turn you from it. There is not enough of religion in our general business—that is a great lack of our time. I often think of one of Paul's messages, where he says, "Whether therefore ye eat, or whether ye drink, or whatsoever ye do, do all to the glory of God." Which means that the glory of God should be in, over, and above all our temporal business; and so I say, go on; give us Home Papers and religious thoughts. I should like to write you a long letter, but I know your time will not allow it. C. W. COSTELLOW.

Waterboro, Me., May 9, 1885.

[Very likely GLEANINGS has sometimes omitted things of much importance, to give place to other matter of very little general importance, and I am going to try hard to profit by the kind criticisms I have had from time to time, from others as well as friend H., always keeping in mind, however, that seeking the kingdom of God and his righteousness is, at least to my mind, the first duty before us all.]

CONVENTION NOTICES.

The Mahoning Valley Bee-Keepers' Association will hold its next meeting at Newton Falls, Ohio, on Thursday, May 28, 1885. E. W. TURNER, Sec.

The Bee-keepers' Association of Central Illinois will meet at Bloomington on July 15th, at 10 o'clock A. M. WM. B. LAWRENCE, Sec.

Bloomington, Ill., April 30, 1885.

The 2d annual picnic of the Northern Mich. Bee-keepers' Society will be held at the apiary of F. A. Palmer, one mile west of McBride, Thursday, May 28. Teams will be at the depot in the morning to convey those coming on the cars to the grounds, and also return them in time for the P. M. trains home. Hot tea and coffee will be served in abundance, and all friends of the honey-bee are cordially invited. Remember the good time we had at Ionia last year, and *come* and let us compare notes.

McBride, Mich. F. A. PALMER, Sec.

FRADENBURG'S RABBITS.

I have now 175 ready to fill orders, and shall have more in due season. A. A. FRADENBURG,
Port Washington, O.

SECOND-HAND FOOT-POWER SAWS.

WE have, subject to our order, three Barnes foot-power buzz-saws, which we have taken from parties whose business has enlarged so much that they have no further use for them. They are all nearly new, in good order, having all the latest improvements. We will sell them for one-fourth less than the regular retail price; that is, we will sell a $40.00 saw for $30.00.

A. I. ROOT, Medina, Ohio.

Decline in Sections.

UNTIL further notice, the regular Simplicity sections will be $4.50 per 1000; 10,000 or more, $4.00 per 1000; 100,000 or more, $3.75 per 1000.

A. I. ROOT, Medina, O.

Cheap! SECTIONS. Cheap! FOUNDATION.

ALL IN ONE PIECE.

Per 100.....$ 4 50
" 5,000..... 21 00

Price List Free.

9tfdb

PER POUND.

For Brood comb.....45c
" Sections.....52c

M. H. HUNT,
BELL BRANCH, MICH.

1885 ITALIAN QUEENS 1885

Untested Queens in March and April..... $1 25
Afterward..... 1 00

J. S. TADLOCK,
5tfdb LULING, CALDWELL CO., TEXAS.

F. A. & H. O. SALISBURY'S CATALOGUE

SENT FREE ON APPLICATION.

BEE-KEEPERS' SUPPLIES AND ENGINES.
2tfd GEDDES, NEW YORK.

1879. ITALIAN QUEENS. 1885.

For Italian queens in their purity, and that can not be excelled; Comb Foundation and supplies generally, send for circular. Untested queens, $1.00 per dozen. T. S. HALL,
7tfdb Kirby's Creek, Jackson Co., Ala.

ROOT'S CHAFF HIVES

Still lead, and we furnish them at

Hard-Pan Prices.

Our 5th Annual Circular, containing a full line of Bee-Keepers' goods, will be sent free on application.
5tfdb S. C. & J. P. WATTS, MURRAY, CLEARFIELD CO., PA.

FROM CHOICE IMPORTED QUEENS

I will, after June 21, furnish untested queens from my choice imported queen-mother, for $1.00 each. Nucleus with queen, $3.00.
9tfdb J. L. HYDE, POMFRET LANDING, CONN.

New Maple Sugar.

A limited supply, and some of it very nice. Prices, 8, 9, 10, and 11 c per lb., according to quality. One cent less, if ordered in lots of 100 lbs. or more.
A. I. ROOT, Medina, O.

Foundation-Mills Lower.

Until further notice, prices will be as follows: 4-inch mill, $10.00; 6 inch mill, $13.50; 10-in. mill, $20.00; 12-inch mill, $30.00; 14-inch mill, $40.00.
A. I. ROOT, Medina, O.

GOLDEN ITALIAN QUEENS.

Bees beautiful, gentle, and great honey-gatherers. Queens large and prolific; untested queens after May, $1.00; tested, $2.00. Extra tested to breed from, $3.50. Send for circular to 9-10-11-12d
DARROW & ROSS, LEBANON, ST. CLAIR CO., ILL

SOMETHING NEW.

As I have greatly increased my facilities for manufacturing

Apiary Supplies,

It will be to your advantage to send for price list before purchasing elsewhere. Cash paid for beeswax.
A. B. HOWE,
2tfdb **Council Bluffs, Iowa.**

RAPE SEED, 15c PER LB.: 10 LBS., $1.00. **Spider-Plant Seed,** $2.00 per lb. **Simpson Plants,** $5.00 per thousand. Must inclose 18c per lb. for postage. ANDREW GURNEY,
7-10db College Hill, Poughkeepsie, N. Y.

DADANT'S FOUNDATION

is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; Dougherty & McKee, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Ezra Baer, Dixon, Lee Co., Ill.; E. S. Armstrong, Jerseyville, Ill.; H. Drum, Adelphi, O.; Arthur Todd, Germantown, Philadelphia, Pa.; E. Kretchmer, Coburg, Iowa; E. F. Smith, Smyrna, N. Y.; C. T. Dale, Mortonsville, Ky.; Clark Johnson & Son, Covington, Ky., King, Aspinwall & Co., 16 Thomas St., New York City, C. A. Graves, Birmingham, O.; M. J. Dickason, Hiawatha, Kan., and numerous other dealers.

Write for *samples free*, and price list of supplies, accompanied with **150 Complimentary** and *unsolicited testimonials*, from as many bee-keepers, in 1883. *We guarantee every inch of our foundation equal to sample in every respect.*

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

Bee-Hives AND Sections!

NEW SHOP AND NEW MACHINERY.

The Largest Manufactory of Bee-Hives, Sections, etc., in the World.

Our Capacity now is a Carload of Goods Daily.

NOTICE.

By enlarging our factory last year we were put behind with our work so that by spring we were obliged to return many orders. *Now* we have ample stock ahead, and can fill orders promptly.

Write for our new price list for 1885.

G. B. LEWIS & CO.,
19tfdb WATERTOWN, WISCONSIN.

DIXON & DILLON,

Parrish, Franklin Co., Illinois.

Manufacturers of and Dealers in all kinds of

APIARIAN SUPPLIES,

at the lowest prices. Also pure **ITALIAN BEES and QUEENS.** No other bees kept in our yards. For further information, send for price list. 6-13db

BINGHAM SMOKERS AND KNIVES.

BY MAIL, POSTPAID.

Doctor smoker (wide shield.....3½ inch.....	.....$2 00
Conqueror smoker (wide shield) 3 "	1 75
Large smoker (wide shield).....2½ "	1 50
Extra smoker (wide shield).....2 "	1 25
Plain smoker.....2 "	1 00
Little Wonder smoker.....1¾ "	65
Bingham & Hetherington Honey-Knife, 2-inch.....	1 15

To sell again, app'y for dozen or half-dozen rates. Address

BINGHAM & HETHERINGTON, ABRONIA, MICH.
10tfdb

I HAVE THEM. Pure Italian Queens, raised from the choicest stock, ready to mail now. Untested queens, $1.00. Tested queens, 2.00. Send me your order, and send for my circular of queens and bees. J. P. CONNELL.
9 20db Hillsboro, Hill Co., Texas.

COMBS IN LANGSTROTH FRAMES

FOR SALE—ABOUT 300.

Rather better than common. Address
8tfdb *M. E. NUNN, Peru, Huron Co., Ohio.*

110 Colonies of Bees for Sale!

IN THE 8-FRAME LANGSTROTH HIVE.

Hives are nearly new, and well-painted. Combs are ½ foundation; they are strong in bees. Pure Italians, $5.00; Hybrids, $4.50. Italians are bees from A. I. Root's best imported stock. Queens all one and two years old this season. My health has failed, and I am compelled to sell. I guarantee safe arrival. Send money in registered letter or postoffice order. **J. R. REED,**

9-10d **MILFORD, JEFFERSON CO., WIS.**

TRY THE BELLINZONA ITALIANS, and see for yourself that they are *THE BEST.* Warranted queens in May, $1.25; June, $1.10; July and after, $1.00; six for $5 00. Bees fat reduced rates. Send for descriptive circular. Satisfaction guaranteed. CHAS. D. DUVALL,

9tfdb Spencerville, Mont. Co., Md.

DADANT'S FOUNDATION FACTORY, WHOLESALE and RETAIL. See advertisement in another column. 3btfd

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FOUNDATION.—Who wants it for 40 cts. per lb.? 200 lbs. in the lot, ready made, and will be cut to fit any frame. *T. S. Hall, Kirby's Creek, Ala.* 9-10d

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Imported TUNISIAN Queens.

10-11d **FRANK BENTON,** MUNICH, GERMANY.

SECTIONS.

Western headquarters for bee-men's supplies. Four-piece sections, and hives of every kind, a specialty. Flory's corner-clamps, etc. Orders for sections and clamps filled in a few hours' notice. Send for sample and prices.

M. R. MADARY,

9-20db **Box 172. Fresno City, Cal.**

Established 1853.

HEADQUARTERS BEESWAX

We have constantly on hand a large stock of Domestic, Imported, and Refined **Beeswax** in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. Write to us for prices, stating quantity wanted. Address

R. ECKERMANN & WILL.

Beeswax Bleachers & Refiners. SYRACUSE, N. Y.

N. B.—We have low freight rates to all points on quantities. 24-11db

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350 COLONIES

Italian Bees For Sale.

FULL COLONIES, NUCLEI, TESTED AND DOLLAR QUEENS.

CIRCULAR ON APPLICATION.

J. H. & W. ROBERTSON,

8tfdb *Pewamo, Ionia Co., Mich.*

Simply Send me Your Name

and address, plainly written on a postal card, and I will send in return my circular and price list of Italian and Holy-Land Bees and Queens, free.

7-10db **J. C. MISHLER, LIGONIER, NOBLE CO., IND.**

I WILL SELL

Chaff hives all complete, with lower frames, for $2.50; in flat, $1.50; 2-story Simplicity, complete, $1.25; in flat, 90c.

Comb Foundation, made from pure refined wax, 45c per lb. for heavy; 55 for light. Other supplies. Send for price list. A. F. STAUFFER,

7-12db Sterling, Whiteside Co., Ill.

A WONDER ON WHEELS!

The Revolving Landside and Two Horses,

VERSUS

The Drag-Bar and Three!

Light Draft and Comfort to the front. Side draft, "Horse Killing," and sore shoulders, to the rear.

Less "tinkering," easier driving, straighter furrows, a greater range of work, and more of it with the same team than any plow in existence, on or off wheels. Uses no pole (except in stumpy fields, has no equal in hard or stony fields, or on hill-sides.

Send for our free book entitled, "Solid Comfort; or, Fun on the Farm."

The editor of this paper owns a "Solid Comfort" sulky, to whom we would refer for reference.

We also have the new Economist Hand Plow, with reversible self-sharpening point and wing, in full steel; full Chilled and Combination.

All goods fully warranted. Address

ECONOMIST PLOW CO.,

9-10d **Columbus, Ohio.**

THE CANADIAN BEE JOURNAL.

WEEKLY, $1.00 PER YEAR.

D. A. Jones & Co., Publishers, Beeton, Ont., Can.

The only bee journal printed in Canada, and containing much valuable and interesting matter each week from the pens of leading Canadian and United States bee-keepers. Sample copy sent free on receipt of address. Printed on nice toned paper, and in a nice shape for binding, making in one year a volume of 832 pages. 9tfb

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W. Z. HUTCHINSON,

ROGERSVILLE, GENESEE CO., MICH.,

Can furnish just as neat, white, smooth, and perfect dovetailed white-poplar sections as there are made. Send for sample and prices. A few full colonies of choice Italians, in Heddon hives, for sale at $8.00 per colony. Untested Italian queens (from the South), $1.50 each. Tested queens, reared last year in the home apiary, $3.00 each. Beeswax wanted. Make money orders payable at Flint. 9tfdb

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SIX SYRIAN QUEENS, warranted purely mated, for $6. Single queen, $1.25. Tested, $3 each. Italians, same price. Four frame nuclei, L. frame, with tested queen, $5 each.

6-7-8-9dtfb **I. R. GOOD, Sparta, Tenn.**

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60 Colonies of Bees For Sale.

For particulars, call upon or address

8-12db A. L. EDWARDS, Skaneateles, N. Y.

CALL IN TIME

For colonies of pure Italian bees, with home-bred queen, each, $7.00; 3, $6.00; 5 to 10, $5.50; 15, $5.00. Foundation for sale. Beeswaw wanted. For particulars call. E. S. Hildermann, Ashippun, Dodge Co., Wis.

10-11d

HONEY COLUMN.

CITY MARKETS.

ST. LOUIS.—*Honey.*—There is no change to note in our honey market. Quote extracted, southern, bbls., 3½@4c. Comb honey, no choice white clover in market. A little inquiry for small pkgs. at about 16c in nice order. Dark not wanted. *Beeswax.*—A little weaker. Orders scarce; 27@30c. If demand improves, market will go higher.
May 9, 1885. W. T. ANDERSON & Co.,
104 N. Third St., St. Louis, Mo.

CLEVELAND.—*Honey.*—The market is remarkably quiet just now, none moving; prices are unchanged; 14@15c for best white 1-lb. sections; 12@13 for second quality, and 2-lb. sections. Extracted not wanted. *Beeswax*, 28@30c. A. C. KENDEL.
May 12, 1885. 115 Ontario St., Cleveland, O.

DETROIT.—*Honey.*—The honey market is well supplied, and the demand quiet. One-pound sections, 12@13c. A. B. WEED.
Detroit, May 12, 1885.

KANSAS CITY.—*Honey.*—Demand for choice white comb, in ½, 1, and 2 lb. sections, good, and prices fairly maintained; ½ lb., 15@16c; 1 lb., 13@14c; 2 lb., 10@11c. Extracted, slow at 5@7c. *Beeswax*, 25@30c, according to quality. We want some ½-lb. sections of comb honey, and will need some more nice white 1-lb. sections. Shall be pleased to hear from parties having any. CLEMONS, CLOON & Co.,
May 11, 1885. Kansas City, Mo.

CHICAGO.—*Honey.*—Comb honey sells slowly; not much change in prices. For a fine quality, 10@15c. is about the range. Candied comb honey is unsalable. Extracted, 6@7c. *Beeswax.*—Dull at 28c. for best. R. A. BURNETT.
May 12, 1885. 161 So. Water St., Chicago, Ill.

MILWAUKEE. *Honey.*—This market for honey is without any particular interest; very little demand, and prices almost nominal. Maple sweets now supply the demand for those who eat much honey. Will quote 1-lb. sections, white, 13@14; large white sections, 10@12c; extracted, in pails, 8@8½; extracted in kegs, 7½@8.
Beeswax.—Pure and yellow, 30@35; dark, 20@25.
May 12, 1885. A. V. BISHOP,
142 West Water St., Milwaukee, Wis.

EASTERN QUEENS.

Importing large quantities, we are enabled to quote:

	Spring.	Fall.
Syrian Queens	$9 00	$7 00
Palestine "	8 00	6 00
Italian "	4 00	3 00

All guaranteed pure, and reared in native lands, safely delivered by mail. Registered, draft, P. O.

THOS. EDEY & SON,
Steam Joinery Works, St. Neots, England.
10-11 tfd

ITALIAN QUEENS,

$1.00; $10.00 per dozen; tested, $2.00. Safe arrival guaranteed. Circular free.
J. M. KILLOUGH & CO.,
10tfdb **San Marcos, Hays Co., Tex.**

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

Warranted Italian Queens,

bred with care, from finest imported stock, only $1.00. Address for price list,
9 S. F. REED, No. Dorchester, N. H.

IF YOU WISH TO TRY

The **HEDDON SECTION CASE** adapted to the Simplicity hive, don't fail to send for my circular, as it will tell you how to get samples of them free. **D. S. HALL, South Gabot, Vt.**

BEES BY THE POUND.

200 Colonies to draw from. Safe arrival guaranteed. Send for circular before purchasing elsewhere. T. P. ANDREWS,
9d Farina, Fayette Co., Illinois.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

QUEENS FOR SALE.—Hybrid queens, 50 cts. each; black queens, 25c each, from June 1 to Oct. 1. Safe arrival guaranteed. R. H. BAILEY,
7-11db P. O. Box 81. Ausable Forks, Essex Co., N. Y.

I have about 6 hybrid queens that I will take 50c each for. Address at once,
A. B. JOHNSON, Elizabethtown, N. C.

EXCHANGE DEPARTMENT.

Notices will be inserted under this head at one-half our usual rates. All ad's intended for this department must not exceed 5 lines, and you must SAY you want your ad. in this department, or we will not be responsible for any error.

WANTED.—To exchange 4-piece dovetailed sections for *bees* or Italian queens.
W. S. WRIGHT, Battle Creek, Mich.

WANTED.—To trade L. hives complete, for comb honey, sections full of fdn., or chaff hives, for bees or fdn. mill. 10d
JOHN C. STEWART, Hopkins, Nodaway Co., Mo.

WANTED.—To exchange a $35.00 aquarium for a good medium-size foot-lathe. A Shipman's Demas No. 4, or a Barnes No. 4 preferred.
10d JAS. H. ANDRUS, Almont, Lapeer Co., Mich.

WANTED.—To exchange a good Excelsior printing-press, self-inker, chase 3x5, with 7 fonts of type, with furniture to match, for young bees, any color. Address 10d
SAMUEL HEATH, Rimer, Armstrong Co., Pa.

WANTED.—To send a sitting of 13 choice Brown-Leghorn eggs for Italian queens in May or June; will send the eggs at once, and queens may be sent when ready. 10
C. L. BROOKS, Deansville, Oneida Co., N. Y.

HELP FOR THE SUFFERERS.

The following friends have agreed to furnish bees and queens at low prices, for the benefit of the friends who have lost badly during the past severe winter. In consideration of this, they are allowed to give the following notices once free of charge. As will be noticed, the prices are more or less lower than our regular advertised rates.

10 lbs. of Italian bees for $12.50. Full colonies in Simplicity hive, or brood-chamber of Manum hive, for $8.00. W. H. PROCTOR, Fair Haven, Vt.

During the months of May, June, and July, I will sell 2-frame nuclei, with untested Italian queen, for $2.25; 3 frame nuclei, with untested Italian queen, $2.75. Italian bees by the lb., the 1st of June and after, $1.00. Satisfaction guaranteed. Address
A. B. JOHNSON, Elizabethtown, Bladen Co., N. C.

On and after May 15th, and until further notice, I will sell nuclei, with black or hybrid bees and queens, just as they happen to come, at $2.00 each, to contain queen and one frame with adhering bees, and honey for the trip; and if the friends wish to add 50 cents more I will send a frame containing as much brood as can be spared at that price, and at this time of the year. The above sent in light shipping-boxes, and perfect satisfaction guaranteed.
C. W. SLEIGH, Richland Center, Wis.